December 8, 1997

MEMORANDUM

TO:

Orville D. Green, Assistant Administrator

Air and Hazardous Waste

FROM:

Susan J. Richards, Chief

Air Quality Permitting Bureau

SUBJECT:

Issuance of Modification of Tier II Operating Permit #005-00004 to

Ash Grove Cement Company; Inkom

PURPOSE

The purpose of this memorandum is to satisfy the requirements of IDAPA 16.01.01 Sections 400 through 406 (Rules for the Control of Air Pollution in Idaho) for issuing Tier II Operating Permits.

PROJECT DESCRIPTION

This project involves the "modification" of Tier II Operating Permit (OP) #005-00004. Ash Grove Cement (AGC) has not requested a change in the method of operation, or a change in short-term and annual emission rates. AGC's proposed modifications involve increases in material throughput for given process areas. For a listing of the modifications proposed by AGC, please refer to Appendix A. Operating requirements in Tier II OP #005-00004 limiting material throughput have been modified to reflect these changes. Minor changes to the Tier II OP have also been made in order to clarify the intent of certain requirements therein.

No public comment period has been scheduled for this permit because DEQ has not modified the intent of any of the requirements or any of the emission limits therein. AGC's proposed "modification" does not qualify as a modification as defined by IDAPA 16.01.01.006.57, has not been submitted pursuant IDAPA 16.01.01.401.01, or required fluid modeling to determine a GEP stack height. DEQ has, therefore, not provided for a public comment period in accordance with IDAPA 16.01.01.404.01.c.

SUMMARY OF EVENTS

DEQ received AGC's application to modify its Tier II OP #005-0004 on August 21, 1997. DEQ deemed the application incomplete on September 10, 1997. DEQ received AGC's response to the incompleteness letter on October 6, 1997. On November 5, 1997, DEQ met with AGC officials, and discussed the need that AGC substantiate its claim of no significant emissions increase. DEQ requested that AGC submit the information to substantiate its claim before proceeding with processing the request. DEQ received the requested information on November 12, 1997, and November 17, 1997. On November 19, 1997, DEQ spoke with AGC officials regarding the lack of information regarding blasting emission. AGC and DEQ concurred that current AP-42 EFs did not accurately represent blasting emissions. AGC and DEQ agreed that DEQ would use data contained in a May 10, 1995, letter submitted by AGC to estimate those emissions. DEQ deemed the application complete on November 21, 1997.

RECOMMENDATIONS

Based on the review of the submitted information and modified emission inventory, the Bureau recommends that Ash Grove Cement Company, located in Inkom, Idaho, be issued a modified Tier II OP. Staff members also recommend that the facility be notified in writing of the obligation to pay permit application fees, pursuant to IDAPA 16.01.01.470, for the Tier II OP.

SJRVABC:jrj...\permit\eshgrove\egcmod2.IMM

Attachments

cc:

Pocatello Regional Office R. Elkíns, Pocatello Regional Office Source File COF

A. Cole, Pocatello Regional Office

December 8, 1997

MEMORANDUM

TO:

Susan J. Richards, Bureau Chief Air Quality Permitting Bureau Air & Hazardous Waste

FROM:

Aimer B. Casile, Air Quality Engineer

Air Quality Permitting Bureau Operating Permits Section

SUBJECT:

Technical Analysis for Modification of Tier II Operating Permit #005-00004

Ash Grove Cement Company, Inkom

PURPOSE

The purpose of this memorandum is to satisfy the requirements of IDAPA 16.01.01 Sections 400 through 406 (Rules for the Control of Air Pollution in Idaho) for issuing Operating Permits.

PROJECT DESCRIPTION

This project involves the "modification" of Tier II Operating Permit (OP) #005-00004. Ash Grove Cement (AGC) has not requested a change in the method of operation or a change in short-term and annual emission rates. AGC's proposed modifications involve increases in material throughput for given process areas. For a listing of the modifications proposed by AGC, please refer to Appendix A. Operating requirements in Tier II OP #005-00004 limiting material throughput have been modified to reflect these changes. Minor changes to the Tier II OP have also been made in order to clarify the intent of certain requirements therein.

No public comment period has been scheduled for this permit because DEQ has not modified the intent of any of the requirements, or any of the emission limits therein. AGC's proposed "modification" does not qualify as a modification as defined by IDAPA 16.01.01.006.57, has not been submitted pursuant IDAPA 16.01.01.401.01, or required fluid modeling to determine a GEP stack height. DEQ has, therefore, not provided for a public comment period in accordance with IDAPA 16.01.01.404.01.c.

FACILITY DESCRIPTION

The AGC plant is situated along the bank of the Portneuf River, approximately eleven (11) miles southeast of Pocatello, ldaho. The plant produces clinker from raw materials and processes the clinker into cement.

For a listing of all transfer points, point sources, roads, storage piles, and their associated emissions, please refer to Appendix A.

SUMMARY OF EVENTS

DEQ received AGC's application to modify its Tier II OP #005-00004 on August 21, 1997. DEQ deemed the application incomplete on September 10, 1997. DEQ received AGC's response to the incompleteness letter on October 6, 1997. On November 5, 1997, DEQ met with AGC officials, and discussed the need that AGC substantiate its claim of no significant emissions increase. DEQ requested that AGC submit the information to substantiate its claim before proceeding with processing the request. DEQ received the requested information on November 12, 1997, and November 17, 1997. On November 19, 1997, DEQ spoke with AGC officials regarding the lack of information pertaining to blasting emission. AGC and DEQ concurred that current AP-42 EFs did not accurately represent blasting emissions. AGC and DEQ would use data contained in a May 10, 1995, letter submitted by AGC to estimate those emissions. DEQ deemed the application complete on November 21, 1997.

DISCUSSION

1. <u>Emission Calculations</u>

Staff reviewed the proposed emission inventory submitted by AGC on October 6, 1997, and determined that AGC had not changed the emission estimation equations used to issue AGC's December 4, 1995, Tier II OP #005-00004. AGC did, however, change the value of certain variables within the equations to allow for an increase material throughput without an increase in emissions. (This project involves changes in throughput and emission control efficiencies. Most all of which have either remained the same or increased. A letter discussing changes in emission factors and control efficiencies has been included in Appendix B.) Staff further modified the submitted emission inventory to reflect no change in short-term material throughput rates and emission limits. AGC had based short-term emission estimates on short-term material throughput rates that differed from those given in the Tier II OP.

Ash Grove Cement - TECH MEMO December 8, 1997 Page 2

All short-term and annual emission estimates are based on the following equations:

AGC has changed the layout of the spreadsheets used to estimate emissions (please see Appendix A). AGC has done this to clarify which source codes were used to establish the emission limits for the given process area.

Emission estimates for drilling and dozing were performed using an annual throughput of 435,708 tons per year of raw material. Previous estimates were based on 400,000 tons per year of raw material. Short-term emission estimates for blasting were based on a May 10, 1995, letter submitted by AGC (see Appendix C). The August 15, 1997, version of the El did not include an estimate short-term and annual blasting emissions. AGC stated in a conversion held on November 19, 1997, that the El did not contain because Section 11.19.2 of the 5th Ed. of AP-42 stated that EF estimates for blasting were sparse and unreliable (see Appendix C). DEQ concurred, but stated that AGC must include an estimate for this previously permitted activity. (Original estimates for the Tier II OP proposed in May 1995 were based on questionable lb/ton EFs submitted as part of AGC's then proposed El.) Though the May 10, 1995, data was received, it was not included in that El as part of the overall annual estimate of emission. DEQ at this time, however, is referring back to the May 10, 1995, data for lack of any other information submitted in the application. DEQ's basis for using the May 10, 1995, data is that AGC had stated in the November 19, 1997, conversation that overall blast sizes had decreased, which DEQ assumed would reduce overall emissions. Short-term emission estimates were assumed to be the value of the EF, except in units of lb/hr. Annual emissions estimates assume that the total number of blasts per year, six (6), will yield 435,708 tons of raw material. Compliance demonstration procedures have not changed. The Permittee will still record the number of tons of material blasted. Annual emission estimates were determined by multiplying the lb/blast by the number of blasts per year and dividing the product by 2,000 lbs/ton.

Short-term and annual operating limits for Limestone Receiving, Crushing, and Storage were determined using the throughput rates of source code F24. This emission point represents transfer to stockpile only. Raw material throughput of this process area is as high as 544,635 tons/yr (see Appendix A, source code F7 and F14). Demonstration of compliance with the monthly based hourly operating limit shall be determined by dividing the total monthly throughput by actual hours of operation. Compliance with similar short-term operating limits in Iron Ore-, Silica-, and Gypsum Receiving, Crushing, and Storage should be determined in a similar manner. It should be noted the DEQ has changed the short-term material throughput rates of the Limestone-, Iron Ore-, Silica-, and Gypsum Receiving, Crushing, and Storage process areas. Staff have changed the values to reflect the short-term operating limitation found in December 4, 1995, Tier II OP, and maintain a level of operational flexibility for AGC. Staff have also changed, at the request of the AGC, the annual throughput values used to calculation annual emissions values. Staff have changed the wording of the Limestone-, Iron Ore-, Silica-, and Gypsum Receiving, Crushing, and Storage sections of the permit to clarify that AGC must comply with the short-term and annual process rate limits. Previously, these sections contained an "or" statement that staff interpreted to be vague and possibly misleading. Staff have made these corrections elsewhere in the permit also.

Operating requirements for Silo Withdrawal, Conveying, and Storage were taken from the short-term and annual throughput rates of source code F30. The emission point associated with source code number is the point at which all materials pass through, and thus has the highest short-term and annual material throughput rate. Demonstration of compliance with the monthly based hourly operating limit shall be determined by dividing the total monthly throughput by actual hours of operation. All source codes used to determine the short-term and annual emission limits are listed in Appendix. A.

The average hourly throughput of #1 and #2 Kilns, based on annual production and actual hours of operation, has been increased from 12.5 tons and 16.7 tons, respectively, to 15.4 tons and 18.4. As can be seen in Appendix A, these new values are based on 8,760 hours of operation, and 135,000 tons and 170,000 tons throughput for the #1 and #2 Kilns, respectively. Demonstration of compliance with the hourly operating limit shall be determined by dividing the total annual throughput by actual annual hours of operation. AGC has also submitted emission data demonstrating that past gaseous emission levels from the kilns do not have the potential to violate permit gaseous emission limits. A review of the submitted data revealed AGC's claim to be true for all pollutants except CO. CO emissions were submitted at ninety-two percent (92%) of the emission limit. Data submitted supporting the August 1993 test used to determine the ninety-two percent (92%) CO emission rate revealed that the data was not determined according to 40 CFR 60, Appendix A, Reference Method 10. Further review revealed that the procedures used had an accuracy of ±10%. This accuracy coupled with the measured value and the proposed increase in throughput could have the potential of exceeding the emission limit. AGC has asserted, however, "that there will be no significant change in emission of gaseous pollutants." While this claim may be true, DEQ has asserted that the CO limit for the #2 Kiln was determined using an initial CO compliance test performed at a given material throughput, and that a possible increase in emissions may occur with an increase in throughput.

Though DEQ cannot confirm AGC's claim, resolution of this matter could only be achieved if AGC were required to develop an EF for the proposed increase. DEQ understands, however, that due to time schedule involved that this is not possible. DEQ has, therefore, granted AGC's request to be permitted at its current CO limit at an increase throughput rate. DEQ would like to clarify that though it has granted AGC's request, it has not relinquished its ability to resolve this discrepancy during the issuance of AGC's Tier I OP.

It should be noted that the #1 & #2 Clinker Coolers and Clinker Handling Systems process area is limited by the same operating requirements as the #1 and #2 Kilns. The process area not only handles clinker from the #1 and #2 clinker coolers, but also clinker received by rail car. The operating requirement listed in the permit for this process area only limits the process rate of the clinker coolers, and does not specifically limit the amount of material received by rail car. The emission estimates for this process area, however, were determined using an hourly and annual throughput rate of 500 tons and 55,000 tons, respectively. This estimate, along with other operating requirements in the permit, limits the amount of material received by rail. (Specifically, the difference of the annual material throughput limitations of the kilns, finish grinding, and gypsum receiving and crushing yield 55,000 tons clinker.) Cement Kiln Dust Handling operating requirements were determined using source codes F88, F109, F98, and F107. These represent uncontrolled emissions and are, therefore, the greatest contributors to the overall emission of the process area.

Emission estimates for Clinker Reclaim were determined using source codes F65A - F81. Operating requirements for this process area are based on those established for Finish Grinding and Associated Handling. Compliance with the operating requirements of Finish Grinding and Associated Handling shall establish the compliance status of Clinker Reclaim. It should be noted that AGC and DEQ staff discovered an error in the summation of emission estimates used to establish the emission limit for this process area in the December 4, 1995, Tier II OP. The estimates used to establish the emission limit in the previous permit did not sum emissions from all emission points within the process area, yielding a lower total emission. This error was corrected, and the updated emission estimates were then used to establish the appropriate emission limit. It should also be noted that a comparison of "corrected" before and after total emission estimates for Clinker Reclaim shows an overall decrease in emissions. No change in the method of estimating emission was associated with the correction.

For the process area Finish Grinding and Associated Handling, throughput limits for the #1, #2, and #3 Mills were taken from emission points F120, F121, and F136, respectively. These points represent the total cement throughput of each of the mills. The cement throughput limit of each mill was set at seventy-seven (77) tons per hour (determined as an average value over a time period of one month), and 382,737 tons per year. (While these values appear to be a significant increase of the previously permitted values, a review of an October 5, 1995, El has shown that the former values only represented processing of cement from raw material only. The mills take in raw materials and cement. The December 4, 1995, Tier II OP only listed cement throughput from raw materials. The permit has been updated to reflect this finding, and now contains the "adjusted" throughput value. It should be noted that this process does have a recycle loop that make it appear to handle more material than it actually does.) Demonstration of compliance with the monthly based hourly operating limit shall be determined by dividing the total monthly throughput by actual hours of operation.

Ash Grove Cement - TECH MEMO December 8, 1997 Page 4

The sum of the throughput of source codes F201 - F203 were used to determine the total annual ship out limit for Cement Loadout. No other operating requirements were changed for this process area. No changes were made to the operating requirements of the Coal Handling process area. Total mileage and water control efficiency values have been changed in the Paved Road emissions calculation. These same changes plus changes to vehicle speed values have also been made to the Unpaved Road emissions. Material throughput values have also been changed in the Storage Pile and Internal Transfers emission calculations. Changes made to the Internal Transfers emissions calculations also involve Trip Mileage, Unpaved Water Control, and Material Trips per year.

2. Modeling

This project did not require modeling. Data submitted as part of the application for this project did not show an increase in emissions, and therefore modeling was not performed.

3. Area Classification

AGC is located in Inkom, which is located in the Power-Bannock Countles Nonattainment Area. This area is nonattainment for PM₁₀ and attainment or unclassified for other criteria pollutants. AGC is also located in Zone 12, and AQCR 61.

4. Facility Classification

The facility is a Portland cement plant (SIC #3241) and is a designated facility, as defined in IDAPA 16.01.01.006.25. The facility is a major facility, as defined in IDAPA 16.01.01.00654, because actual emissions of PM, NO, SO, and CO exceed, or are equal to 100 tons per year (T/yr). The facility is also subject to NSPS, 40 CFR 60 Subpart F.

5. Requistory Review

This Tier II OP is subject to the following permitting regulations:

A. State

IDAPA 16.01.01.006	Definitions;
DAPA 16.01.01.401	Tier II Operating Permit;
DAPA 16.01.01.402	Application Procedures;
IDAPA 16.01.01.403	Permit Requirements:
IDAPA 16.01.01.404	Procedure for Issuing Permits:
IDAPA 16.01.01.405	Conditions for Tier II Operating Permit:
IDAPA 16.01.01.406	Obligation to Comply:
IDAPA 16.01.01.470	Permit Application Fees for Tier II Permits;
IDAPA 16.01.01.525	Registration and Registration Fees;
IDAPA 16.01.01.625	Visible Emissions Limitations;
IDAPA 16.01.01.650	General Rules for the Control of Fugitive Dust;

B. <u>Federal</u>

40 CFR 60 Subpart F

Standards of Performance for Portland Cement Plants

RECOMMENDATION

Based on the review of the submitted information and modified emission inventory, the Bureau recommends that Ash Grove Cement Company, located in Inkom, Idaho, be issued a modified Tier II OP. Staff members also recommend that the facility be notified in writing of the obligation to pay permit application fees, pursuant to IDAPA 16.01.01.470, for the Tier II OP.

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Attachments

cc: Pocatello Regional Office R. Elkins, Pocatello Regional Office A. Cole, Pocatello Regional Office Source File

COF

APPENDIX A

ASH GROVE CEMENT COMPANY, INKOM PLANT; SUMMARY OF PROPOSED POTENTIAL EMISSIONS AND THROUGHPUT RATES

		Prop	osed		Limits i	n Tier II F	Permit of	12/04/95	Propo	sed valu	es <= Tie	r II Limit	s?
	P	М	PM	10	P	М	PN		PI			PM ₁₀	_
	LBS/HR	T/YR	LBS/HR	T/YR	LBS/HR	T/YR	LBS/HR	T/YR	LBS/HR	T/YR	LBS/HR	T/YR	
POINT SOURCES:													
Kiln #1	11.61	50.84	9.87	43.21	11.61	50.83	9.86	43.21	Yes	No	No	Yes	8
Klin #2	12.99	56.90	4.07	17.82	16.87	73.91	14.34	62.82	Yes	Yes	Yes	Yes	
Baghouse #1	0.63	2.78	0.54	2.36	0.65	2.78	0.54	2.32	Yes	Yes	Yes	No	<u> a</u>
Baghouse #2	0.92	4.03	0.78	3,43	0.94	4.03	0.70	3.36	Yes	No	No	No	a, b
Baghouse #3	0.73	1.59	0.62	1.35	0.91	3.19	0.62	2.16	Yes	Yes	Yes	Yes	
Baghouse #4	0.15	0.34	0.13	0.29	0.19	0.67	0,13	0.46	Yes	Yes	No	Yes	а
Baghouse #5	1.59	5.21	1.35	4.43	2.11	6.95	1.35	4.45	Yes	Yes	Yes	Yes	
Baghouse #6	2.09	6.86	1.78	5.83	2.77	9.15	1.78	5.86	Yes	Yes	Yes	Yes	
Baghouse #7	0.31	0.67	0.26	0.57	0.39	1.35	0.26	0.91	Yes	Yes	No	Yes	а
Baghouse #8	2.82	9.26	2.40	7.87	3,53	12.34	2.39	8.38	Yes	Yes	No	Yes	а
Subtotal:	33.84	138.47	21.79	87.16	39.97	165.20	31.97	133,93	Yes	Yes	Yes	Yes	a, b
PROCESS FUGITIVES:			<u> </u>						<u> </u>				
Drilling, Blasting and Dozing	2.65	0.07	0.13	0.02	5.39	29.34	1.78	3.09	Yes	Yes	Yes	Yes	[
Limestone Receiving, Crushing and Storage	1.91	1.49	0.92	0.72	23.59	17.75	10.51	7.82	Yes	Yes	Yes	Yes	
Iron Ore Receiving, Crushing and Storage	1.69	0.02	0.81	0.01	16.38	0.16	7,14	0.07	Yes	Yes	Yes	Yes	
Silica Receiving, Crushing and Storage	1.73	0.39	0.83	0.19	9.08	1,99	4.04	0.89	Yes	Yes	Yes	Yes	
Gypsum Receiving, Crushing and Storage	2.15	0.12	1.03	0.06	22.86	1.18	10.21	0.54	Yes	Yes	Yes	Yes	
Silo Withdrawai, Conveying & Storage	0.05	0.21	0.02	0.10	0.42	1.48	0.19	0.68	Yes	Yes	Yes	Yes	
Coal Handling	2.52	0.35	1.21	0.17	5.61	0.74	1.40	0.18	Yes	Yes	Yes	Yes	
#1 & #2 Clinker Coolers and Clinker Handling	47.20	78.65	14.45	37.65	49.06	88.20	24.40	43.54	Yes	Yes	Yes	Yes	T
Clinker Recialm	10.49	45.96	5.25	22.98	6.43	28.15	3.21	14.07	No	No	No	No	¢
Cement Kiln Dust Handling	1.82	1.55	0.91	0.77	1.81	1.59	0.90	0.80	No	Yes	No	Yes	а
Finish Grinding and Associated Handling	3.11	3.79	1.51	1.77	3.19	5.24	1.53	2.41	Yes	Yes	Yes	Yes	
Cement Loadout	13.55	3.50	6.78	1.75	15.83	4.01	7.91	2.00	Yes	Yes	Yes	Yes	
Subtotal:	86.22	136.04	33.71	66.17	159.65	179.83	73.22	76.09	Yes	Yes	Yes	Yes	
PAVED ROADS	-	4.0		0.9	46.52	16.12	10.01	3.47	Yes	Yes	Yes	Yes	1
UNPAVED ROADS	-	9.0	-	3.3	19.97	16.58	7.19	5.97	Yes	Yes	Yes	Yes	
PILES /		4.2		2.0	5.39	33.25	1.78	3.29	Yes	Yes	Yes	Yes	
SUB TOTAL FOR PROCESS FUGITIVES	86.2	157.3	33.7	72.4	231.5	245.8	92.2	88.8	Yes	Yes	Yes	Yes	
GRAND TOTAL	1201	295 8		159.5	271.5		2	222.8	Yes	Yes	Yes	Yes	

a) rounding error, would be "Yes" if only one decimal used

b) "No" due to change of ambiguous method of calculating lbs/hr PM10 in 100995.xls

c) would be "Yes" if 100995.xls value had been entered into Tier II permit

ASH GROVE CEMENT COMPANY, INKOM PL'ANT; SUMMARY OF PROPOSED POTENTIAL EMISSIONS AND THROUGHPUT RATES

		· · · · · · · · · · · · · · · · · · ·	Propose	đ	/	Lin	nits in Tie	r II Perm	it of 12/0	4/95
	MO. AVG.	1	PILE			MO. AVG.		PILE		
	TON/HR	TONYR	ACRES	MMBtwhr	MMBtu/yr	TON/HR	TONATE	ACRES	MMBtu/hr	MMBtwy
Kiln #1	15.4	ann. avg.		96	797,000	12.5	ann. avg.		96	797,000
Klin #2	19.4	ann. avg.		113	938,000	16.7	ann. avg.	·	113	938,000
Limestone Receiving, Crushing and Storage	200	435,708	4			200	400,000	4		
Iron Ore Receiving, Crushing and Storage	200	4,841	0.4		······································	200	4,000	0.4		
Silica Receiving, Crushing and Storage	200	43,571	1			98	40,000	1		
Gypsum Receiving, Crushing and Storage	200	22,737	0.5			200	21,000	0.5		
Silo Withdrawai, Conveying & Storage	75	484,120				60	450,000			
Coal Handling	280	70,000	1			280	70,000	1		
Cement Kiln Dust Handling	20	4,575	1 1	1		20	5,000	1		Į
Finish Grinding and Associated Handling	78	382,737				3*26	3*175,200	 		1
Cement Loadout	1	382,737	1	1			370,000			1

Page 2 of 10

Note: italicized (blue) numbers can be entered, the rest are calculated; hourly values are average annual Drilling, Blasting and Dozing 435,708 Itons limestone and shale Iron Ore Receiving, Crushing and Storage 4.841 tons iron ore Quarried Raw Materials Receiving, Crushing and Storage Silica Receiving, Crushing and Storage 40,000 Jons 435,708 tons limestone and shale 43,571 tons silica 456 hours limestone 2,891 hours Storage Piles Silo Withdrawal, Conveying and Storage 435,708 Itons limestone 48,412 Itons silica and iron ore 8,760 hours and shale Kiln Feed 484,120 Itons kiln feed 70,000 tons coal Coal Handling 8,322 hours 6.570 hours 244,545 tons gases to stacks #1 Rotary Kiln #2 Rotary Kiln 4.575 tons dust 135,000 lons clinker 170,000 tons clinker 8,760 hours 8,760 hours Coment Klin Dust Handling 55,000 |tons Material Out iona Material in tons 382,737 435,708 Cement imported clinker Limestone and Shale #1 & #2 Clinker Cooler and Clinker Kitn Dust 4,575 Silica 43,571 Handling System 244,545 tron Ore 4,841 Kim Gases to stack 360,000 tons clinker imported Clinker 55,000 8,760 hours 22,737 Gypsum Gypsum Receiving, Crushing Coal 70,000 Clinker Reclaim and Storage 631,857 TOTAL 631,857 TOTAL 360,000 Itons total clinker 22,737 tons gypsum 4.380 hours 114 hours Weight based factors used, based upon plant experience and plans: Finish Grinding and Associated Handling 0.23 Cosi/Clinker = Kiin Food/(Clinker+Dust) = 1.60 0.01 382,737 tons cement (i.imestone+Shale in KF)/Klin Feed = 0.90 Tires/Clinker * 0.03 6,570 hours Oil/Clinker = (Siica in Kiin Feed)/Kiin Feed = 0.00 0.06 Gypsum in Cement/Cement = (Iron Ore in Kiin Feed)/Kiin Feed # 0.01

Cement Loadout

4,380 hours

1.0

Ash in Coel (= Clinker) =

Potash Solution/Clinker #

Kiln Dust/Clinker »

0.1

0.015

0.04

Grinding Aid/ton Cement =

ASH GROVE CEMENT COMPANY, INKOM PLANT; PARTICULATE EMISSIONS FROM POINT SOURCES

Ю			Flow Rate (b)		PM		Flow Rate	Operating Hours	PI	M.	PM ₁₀ Fraction	PN	110
No.	Area served	Source Description	acfm	deg. F	gr/dscf	Ref.	dscfm	hre/yr	lb/hr	ton/yr	%	lb/hr	ton/yr
C1	KILN # 1	ESP#1	39294	469	0.0607	a	22333	8760	11.61	50.84	85%	9.87	43.21
C2	KILN # 2	ESP#2	N/A	351	0.0514	a	28167	8760	12.99	56.90	31%	4.07	17.82
	DRAGS/COOLER	BAGHOUSE # 1	2800	140	0.030	C	2464	8760	0.63	2.78	85%	0.54	2.36
C4	CLINKER ELEVATOR	BAGHOUSE # 2	3992	129	0,030	O	3579	8760	0.92	4.03	85%	0.78	3.43
	CLINKER/SILO	BAGHOUSE # 3	3000	100	0.030	C	2829	4380	0.73	1,59	85%	0.62	1.35
C6	CLINKER RECLAIM	BAGHOUSE # 4	600	70	0.030	C	598	4380	0.15	0.34	85%	0.13	0.29
C7	FINISH MILLS #1 & #2	BAGHOUSE # 5	7600	190	0.030	C	6174	6570	1.59	5.21	85%	1.35	4.43
C8	FINISH MILL #3	BAGHOUSE # 6	10000	190	0.030	С	8123	6570	2.09	6.86	85%	1.78	5.83
C10	BULK LOADING	BAGHOUSE # 7	1200	70	0.030	С	1195	4380	0.31	0,67	85%	0.26	0.57
C9	SILOS/PACKAGING	BAGHOUSE # 8	11000	70	0.030	ō	10958	6570	2.82	9.26	85%	2.40	7.87
								TOTALS:	33.84	138.47		21.79	87.16

Notes:

- (a) Hourly rate from 12/4/95 Tier II permit divided with flow rate
- (b) From source test data for kiln precipitators; baghouse fan design for baghouses
- (c) From previous emission estimates (100995.xls). Air Pollution Engineering Manual, 1992, p.751 would justify 0.02 gr/decf, trhoughput rate based factors in AP-42, 5th edt., Table 11.6-4 would result in even lower emission rates.

<u></u>	<u>4</u>	В	С	D	E	F	G	Н	ı	J	К	L	М	N	0	Р	al	R	S	T	U	V ■
Щ.	1.	1						THROUGH	PUT			· · · · · · · · · · · · · · · · · · ·	EN	ISSIC	N FACT	ORS		-		EMISS	ONS	
			DESCRIPTION	<u></u>	HRS	DAYS	HR\$		MAX	AVG.		TSP	PM10		PM10	C	ONTRO	L	TS	3P	PM	10
134	ŲΟΙ	DE	NAME FROM	NAME TO	/DAY	'YR	/YR	MATERIAL	TON/H	TON/H	TONYR	LB/TON	LB/TON	REF	FRAC.	MOIST.	CAPT.	BUILD.	LB/HR	T/YR	LB/HR	TMR
1	DK!		G, BLASTING AND DO)ZING									i i									
H			DRILLING BLASTING		24	0	320	LIMESTONE			435,708	0.0003	0.0001	a	38%	0%	0%	0%		0.08		0.02
 		, ,	DOZING	ma.	24	, o	•	LIMESTONE				2.6500	0.1300	b		0%	0%	0%	2.65	0.01	0.13	0.00
┝╈╣	13	·	DOŽINO	Der		I	191	LIMESTONE			435,708	0.0029	0.0014	Ç.	48%					0.00		0.00
				D10N	ļ	┡	1,955	LIMESTONE	ļ		435,708	0.0029	0.0014	<u> </u>	48%					0.00	<u> </u>	0.00
101	i iu	EST	ONE RECEIVING, CRU	RUNG AND STORAG											<u> </u>			Totals:	2.65	0.07	0.13	0.02
М	F14	. 1	LOADER	FEEDER	8	344	2.753	LIMESTONE			455 355	~~~~~		l	1444							
13	F 5	. 1	FEEDER	JAW CRUSHER	8	344	2,753	LIMESTONE	200 200	158 158	435,706	0.0002	0.0001	L€	48%	0%	0%	80%	0.01	0.01	0.00	
131	Flā		JAW CRUSHER	#1 INCLINE BELT		344	2,753	LIMESTONE	200	158	435,708 435,708	0.0029	0.0003	<u>.</u>	48%	50%	0%	90%	0.01	0.01	0.00	
14 F	F 7		#1 INCLINE BELT	#2 INCLINE BELT	8	344	2,753	LIMESTONE	200	198	544,635	0.0029	0.0014	_ <u>c</u> _	48% 48%	50%	0%	90% 60%	0.02 0.12	0.03 0.18	0.01	0.02
15	F	4	#2 INCLINE BELT	SCREEN #1	T ā	361	2.891	LIMESTONE	200	188	544,635	0.0029	0.0014	C	48%	20%	0%	90%	0.12	0.08	0.02	
16	F 1	5	SCREEN #1	CROSS CTRY. BELT	8	361	2.891	LIMESTONE	200	151	435,708	0.0029	0.0014	- č	48%	20%	0%	90%	0.04	0.05	0.02	
17	F 1		SCREEN #1	HAMMER MILL	8	361	2,891	LIMESTONE	200	38	108,927	0.0007	0.0003	Č	48%	20%	0%	90%	0.00	0.00	0.00	
18	<u> </u>		HAMMER MILL	#1 INCLINE BELT	8	361	2,891	LIMESTONE	200	38	108,927	0.0029	0.0014	Č	48%	50%	0%	90%	0.01	0.01	0.00	
19				BELT 8	8	361	2,891	LIMESTONE	200	151	435,708	0.0029	0.0014	==	48%	20%	0%	0%	0.35	0.51	0.17	0.24
	F 1		BELTS	BELT C	8	361	2,891	LIMESTONE	200	151	435,708	0,0029	0.0014	Ç	48%	20%	0%	0%	0.35	0.51	0.17	
21 22	12		BELT C	SILOS (3)	8	361	2,891	LIMESTONE	200	151	435,708	0.0029	0.0014	C	48%	20%	0%	90%	0.04	0.05	0.02	0.02
23			ILE CRUSHED ROCK			L								T	T	·····	[······································		<u> </u>	
24			CROSS CTRY. BELT		8	25	200	LIMESTONE	200	200	40,000	0.0029	0.0014	C	48%	20%	0%	0%	0.47	0.05	0,22	
 \$7	F 2	2	CHUTE	GROUND	8	25	200	LIMESTONE	200	200	40,000	0.0029	0,0014	C	48%	20%	0%	0%	0.47	0.05	0.22	0.02
 98 	RO	MAR	E RECEIVING, CRUS	UNA AND STABAGE	 				<u> </u>									Totals:	1.91	1.49	0.92	0.72
§ 77 %	F #4	- 1	LOADER	FEEDER	2			mon one						<u> </u>	L		L					
28 28 30	F 5		FEEDER	JAW CRUSHER	2	12 12		IRON ORE	200	200.0	4,841	0.0002	0.0001	C.	48%	0%	0%	80%	0.01	0.00	0.00	al community are a
29 f	F		JAW CRUSHER	#1 INCLINE BELT		12	·	RON ORE	200	200	4,841	0.0007	0.0003	E	48%	50%	0%	90%	0.01	0.00	0.00	
30 F	F 7	1	#1 INCLINE BELT	#2 INCLINE BELT	2	12		IRON ORE	200	200 200	4,841 4,841	0.0029	0.0014	♀.	48%	50%	0%	90%	0.03	0.00	0.01	
1 31 If	FIB	. [#2 INCLINE BELT	#3 INCLINE BELT	2	12	24	IRON ORE	200	200	4,941	0.0029	0 0014 0 0014	C	48%	50% 20%	0% 0%	80% 90%	0.12	0.00	0.06	
32	FØ		#3 INCLINE BELT	SCREEN #2	2	12	24	IRON ORE	200	ő		0.0313	0.0150	C	48%	20%	0%	90%	0.00	0.00	0.00	1 1
33 f	Fį	0	SCREEN #2	CROSS CTRY, BELT	2	12	24	IRON ORE	200	ŏ	<u>-</u> -	0.0029	0.0014	ç	48%	20%	0%	90%	0.00	0.00	£	4
新	۴ ۱	1	SCREEN #2	CONE CRUSHER	2	Ö	,	IRON ORE	200	n/a		0.0029	0.0014	Ç	48%	20%	0%	90%	0.00	0.00	0.00	1 1 1
132	F 1	2		#4 INCLINE BELT	2	Ò		IRON ORE	200	r/a		0.0029	0.0014	Ç	48%	20%	0%	0%		0.00	!	
37			#4 INCLINE BELT	#2 INCLINE BELT	2	0	•	IRON ORE	200	n/B		0.0029	0.0014	c	48%	20%	0%	0%		0.00	ļ : <u>.</u>	
	1		#2 INCLINE DELT	SCREEN #1	2	12	24	IRON ORE	200	200	4,841	0.0313	0.0150	C	48%	20%	0%	90%	0.60	0.01	0.24	0.00
38	F 1		SCREEN #1	CROSS CTRY, BELT	2	12	24	IRON ORE	200	200	4,841	0.0029	0.0014	c	48%	20%	0%	90%	0.05	0.00	0.02	0.00
40	F 1		SCREEN #1 HAMMER MILL	HAMMER MILL	2	12	24	IRON ORE	200	0	-	0.0007	0.0003	C	48%	20%	0%	90%	0.00	0.00	0,00	-
41		÷ #	L-11_7254 7 4 4 1100 ¥	#1 INCLINE BELT BELT B	2	12	24	IRON ORE	200	0	-	0.0029	0.0014	Ç	48%	50%	0%	90%	0.00	0.00	0.00	
751:	- 1		DELT B	BELT C	2	12		IRON ORE	200	200	4,841	0.0029	0.0014	C	48%	20%	0%	0%	0.47	0.01	0.22	0.00
	F 2	- 1	BELT C	SILOS (3)	2	12		IRON ORE	200	200	4,841	0.0029	0.0014	Ç.	48%	20%	0%	0%	0.47	0.01	0.22	
[44]	-1-		EEEL	21CA (A)		12	24	IRON ORE	200	200	4,841	0.0029	0.0014	<u> </u>	48%	20%	0%	90%	0.05	0.00	0.02	
45	SILI	CA R	ECEIVING, CRUSHIN	G AND STORAGE		-		·····	<u> </u>				<u> </u>	<u> </u>			<u> </u>	Totals:	1.89	0.02	0.81	0.01
481	FT4	······································	LOADER	FEEDER	A .	114	458	SILICA	200	96	43,571	0.0002	0.0001	ļ				805	A A-		ļ <u></u>	
47]+	F 6	-	FEEDER	JAW CRUSHER	4	114		SILICA	200	96	43,571	0.0002	0.0003	C	48%	6%	0%	80% 90%	0.00	0.00	0.00	
	F 8		JAW CRUSHER	#1 INCLINE BELT	1 4	114	2.7-	SILICA	200	96	43,571	0.0029	0.0003	Ę.	48%	50%	0%		0.00	0.00	0.00	\$v 3
49	F 7		#1 INCLINE BELT	#2 INCLINE BELT	4	114	******************	SILICA	200	96	43,571	0.0029	0.0014	Ę.	48%	50%	0% 0%	90%	0.01	0.00	0.01	
50	F 8		#2 INCLINE BELT	#3 INCLINE BELT	4	114		SILICA	200	98	43,571	0.0029	0.0014	C	48%	20%	0%	90%	0.08	0.01	0.03 0.01	0.01
51 1		í	#3 INCLINE BELT	SCREEN #2	4	114		SILICA	200	98	43,671	0.0313	0.0150	c	48%	20%	0%	90%	0.02	0.05	0.11	0.03
52 !		- 1	SCREEN #2	CROSS CTRY BELT	4	114		SILICA	200	96	43,571	0.0029	0.0014	C	48%	20%	0%	90%	0.02	0.01	0.01	0.00
53		·	SCREEN #2	CONE CRUSHER	4	114	456	SILICA	200	96	43,571	0.0007	0.0003	č	48%	20%	0%	90%	0.01	0.00	0.00	dan m
64 65 68			CONE CRUSHER	#4 INCLINE BELT	4	114	456	SILICA	200	96	43.571	0.0029	0.0014	č	48%	20%	0%	0%	0.22	0.05	0.11	0.02
22	F			#2 INCLINE BELT	4	114		SILICA	200	96	43,571	0.0029	0.0014	t	48%	20%	0%	0%	0.22	0.05	0.11	
87	F 1	~ 1		BELT B	. 4	.114	· · · · · · · · · · · · · · · · · · ·	SILICA	200	96	43,571	0.0029	0.0014	c	48%	20%	0%	0%	0.22	0.05	0.11	0.02
58	F 2		BELT B BELT C	BELT C	4.	114		SILICA	200	98	43,571	0.0020	0.0014	C	48%	20%	0%	0%	0.22	0.05	0.11	0.02
89			CROSS CTRY, BELT	SILOS (3)	4	114		SILICA	200	96	43,571	0.0029	0.0014	C	48%	20%	0%	90%	0.02	0.01	0.01	
F	_1.6	<u> </u>	VIVOO VIRT. DELL	CHUIE	8	57	456	SILICA	200	96	43,571	0.0029	0.0014	C	48%	20%	0%	0%	0.22	0.05	0.11	0.02

	4	8	С	D	E	F	G	Н		J	К	L	M	N	0	P	Q	R	S	T	U	V
₩.	1		<u> </u>					THROUGH	PUT				EN	ISSIO	N FACT	ORS			,,, ,,,,	EMISS	ONS	
			EDESCRIPTION		HRS	DAYS			MAX.	AVG.		TSP	PM10		PM10		ONTRO	<u>. </u>	TS		PM1	ió
io li			NAME FROM	NAME TO	/DAY	*******	MR	MATERIAL.	TONH	TONH	TOWYR	LB/TON	LB/TON	REF	FRAC.	MOIST.	CAPT.	BUILD.	LB/HR	T/YR	LB/HR	TAYR
ñľ	7 4	.0	CHUTE	GROUND	ğ	57	456	SILICA	200	96	43,571	0.0029	0,0014	C	48%	20%	0%	0%	0.22	0.05	0.11	0.02
					<u> </u>				<u> </u>	'						====	. 312	Totals:	1.73	0.39	0.63	0.19
3	S T I	rsu	RECEIVING, CRUSH		<u> </u>	İ					·			<u> </u>				1.7.7.				
34				FEEDER	3	38	114	GYPSUM	200	200	22,737	0.0002	0.0001	c	48%	0%	0%	80%	0.01	0.00	0.00	0.00
			FEEDER	JAW CRUSHER	3	38	114	GYPSUM	200	200	22,737	0.0007	0.0003	C	48%	50%	0%	90%	0.01	0.00	0.00	
	7		JAW CRUSHER	#1 INCLINE BELT	3	38	114	GYPSUM	200	200	22,737	0.0029	0.0014	Č	48%	50%	0%	90%	0.03	0.00	0.01	0.00
7				#2 INCLINE BELT	3	38	114	GYPSUM	200	200	22,737	0.0029	0.0014	č	48%	50%	0%	60%	0.12	0.01	0.08	0.00
86			#2 INCLINE BELT	SCREEN #1	3	38		GYPSUM	200	200	22,737	0.0313	0.0150	C	48%	20%	0%	90%	0.50	0.03	0.24	0.01
30		2	SCREEN #1	CROSS CTRY, BELT	3.	38		GYPSUM	200	200	22,737	0.0029	0.0014	C	48%	20%	0%	90%	0.05	0.00	0.02	0.00
76	- 1.	4	SCREEN #1	HAMMER MILL	3	38	114	GYPSUM	200	200	22,737	0.0007	0,0003	C	48%	20%	0%	90%	0.01	0.00	0.01	0.00
Ħ.			HAMMER MILL	#1 INCLINE BELT	3	38	114	GYPSUM	200	200	22,737	0,0029	0,0014	C	48%	50%	0%	90%	0.03	0.00	0.01	0.00
72				GYPSUM BELT	3	36	114	GYPSUM	200	200	22,737	0.0029	0.0014	c	48%	20%	0%	0%	0.47	0.03	0.22	0.01
ź.		4		CHUTE	3	38	114	GYPSUM	200	200	22,737	0.0029	0.0014	C	48%	20%	0%	0%	0.47	0.03	0.22	0.01
H		.g	CHUTE	GYPSUM BIN	3	36	114	GYPSUM	200	200	22,737	0.0029	0.0014	g .	48%	20%	0%	0%	0.47	0.03	0.22	0.01
8	till 1	<u> </u>	THORAWAL COLUMN	BIO MIN NAME COM	<u> </u>	ļ												Totals:	2.15	0.12	1.03	
/ Š			THDRAWAL, CONVEY SILO FEEDER						ļ													[
Ħ,				FEED BELT	24	365	8,780	LIMESTONE	75	24	217,854	0.0029	0,0014	<u>c</u>	48%	0%	0%	90%	0.01	0.03	0.00	0.0
	2		Tair a 1 2 2 2 2 2 2 3 3 3 4 4 5 5 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6	FEED BELT	24	365	8,760	LIMESTONE	75	24	217,854	0.0029	0.0014	_ Ç	48%	0%	0%	90%	0,01	0.03	0.00	
	12		ILITE LEHRENCE	FEED BELT FEED BELT	24	385	8,760	SILICA	75	B	43,571	0.0029	0.0014	_ <u>C</u>	48%	0%	0%	90%	0.00	0.01	0.00	
10 i			172 - 172 - 172 - 172 - 172	MILL #4	24 24	365	8,760	IRON ORE	75	1.	4,641	0.0029	0.0014	9	48%	0%	0%	90%	0.00	0.00	0.00	
11	"	_	, -++ MWC1	ingr-j- 6-ā		365	6,760	LIMESTONE	75	49	435,708	0.0029	0.0014	C	48%	0%	0%	90%	0.01	0.06	0.01	0.03
32					24	365	8,760	SILICA	75	6	43,671	0.0029	0.0014	¢	48%	0%	0%	90%	0.00	0.01	0.00	0.00
13	<u> </u>				24	365	8,760	IRON ORE	75	1	4,641	0.0029	0.0014	C	48%	0%	0%	90%	0.00	0.00	0.00	0.00
Ā	3	2	FEED BELT	MILL #3 (BACK-UP)	24						484,120	0.0029	0.0014	<u></u>	48%	0%	0%	90%	0.02	0.07	0.01	0.03
181	Ť		·	MILE SO TOUCK-OLT	24 24	0	-1	LIMESTONE	· 70	Ma		0.0029	0.0014	. Ç	48%	0%	0%	90%		*		-
18	1	-			24	Ö		SILIÇA IRON ORE	75	n/a	···	0.0029	0.0014	Ç.	48%	0%	0%	90%				L
5 7 je	: 3	3	MILL #3	SLURRY TANK	24	۵	•			rva 		0.0029	0.0014	¢	48%	0%	0%	90%	-	•	•	
18	1			araidi mun		"	•	RAW MEAL	75	n/a	-	0.0029	0.0014	Ç	48%	0%	0%	90%				<u> </u>
3 9 [C	O.	AL H	ANDLING		 								1					Totals:	0.05	0.21	0.02	0.10
H	3	4	DUMP	HOPPER	24	6		COAL	280	250	70,000	0.0002	0.0001		146/					4.64		
ш	3	.	HOPPER	BELT	24	Ō	•	COAL	280	260	70,000	0.0029	0.0014	- c	48% 48%	0% 0%	0%	0%	0.1 0.8	0.01 0.10	0.03	0.00
7 2 F	3	6	BELT	COAL ELEVATOR	24	0	-	COAL	280	280	70,000	0.0029	0.0014	Ç.	48%	0%	0%	0%	0.8	0.10	0.39 0.39	0.05
3 F	3		COAL ELEVATOR	COAL SILO	24	0	-	COAL	280	260	70,000	0.0029	0.0014	Ç	48%	0%	0%	0%	0.8	0.10	0.39	****
H	3	8		BELT	24	347	8,322	COAL	10	8	70,000	0.0029	0.0014	Ç	48%	0%	0%	90%	0.00	0.01	0.00	£
	3	9	BELT	#1 COAL MILL	24	347	8,322	COAL	10	8	70,000	0.0029	0.0014	C	48%	0%	0%	90%	0.00	0.01	0.00	1-2:22
(2)	1	0		BELT	24	274	8,570	COAL	10	11	70,000	0.0029	0.0014	Č	48%	0%	0%	90%	0.00	0.01	0.00	
Zŀ	4	1	BELT	#2 COAL MILL	24	274	6,670	COAL	10	11	70,000	0.0029	0.0014	- č	48%	9%	0%	90%	0.00	0.01	0.00	
	<u>, </u>											CHATTER		} - =	72:1		·	Totals:	2,52	0.35	1.21	
K. I.	FE 4	k #λ (CLINKER COOLERS A	ND CLINKER HANDL	NG SY	STEM	ş							l				7		7:57	***	
8	4	101	STEM #1:]				,									1
Ŏ2				#1 KILN	24	365		RAW MEAL	- 60	24	214,283	0.0000	0.0000	đ	50%	0%	0%	99%	0.00	0.00	0.00	0.00
03 F				COOLER	24	365		CLINKER	20	15.4	135,000	0.1500	0.0300	d	20%	0%	0%	90%	0.23	1.01	0.05	0.20
				DRAG #1	24	365		CLINKER	20	15.4	135,000	0.1500	0.0300	d	20%	0%	0%	90%	0.23	1,01	0.05	
5 61.			STEM #2	DRAG #3	24	365	8,760	CLINKER	20	15.4	135,000	0.1500	0.0300	d	20%	0%	95%	90%	0.01	0.05	0.00	
	4			an Mh às	ایہا									1			1					1
٥ž١٠				#2 KILN	24	385		RAW MEAL	90	30.6	269,837	0.0000	0 0000	d	20%	0%	0%	99%	0.00	0.00	0.00	0.00
ÖÖİF				#2 COOLER	24	365	14.2.	CLINKER	30	19.4	170,000	0.1500	0.0300	d	20%	0%	95%	90%	0.01	0.06	0.00	0,01
-	4	-	[T] T T T T T T T T T T T T T T T T T	DRAG #2 DRAG #3	24	366		CLINKER	30	19.4	170,000	0.1600	0 0300	d	20%	0%	95%	90%	0.01	0.08	0.00	0.01
	: 4			AUX, DRAG	24	305		CLINKER	30	19.4	170,000	0.1500	0.0300	d	20%	0%	95%	90%	0.01	0.06	0,00	
1116			1	TRACK BIN	24 24	365 365		CLINKER	30	0.0	•	0.1500	0.0300	d	20%	0%	95%	80%	0.00	0.00	0.00	
72 1		OC.	l	CIKANE				CLINKER	30	00	•	0.1600	0.0300	d	20%	0%	95%	10%	0.00	0,00	0.00	0.00
13k	-:		RECEIVING:	OLANINE.	24	365	8,760	CLINKER	30	0.0	<u>.</u>	0.1500	0.0300	d	20%	0%	0%	50%	0.00	0.00	0.00	0.00
*******			RAIL CAR	TRACK BIN		200		All Comments														
			HANDLING:	LINNY DIL	24	365	8,750	CLINKER	500	250.0	55,000	0.1500	0.0300	đ	20%	0%	0%	20%	30.00	3.30	6.00	0.66
		707	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1						1	1		•	1	l		```			"-			1

	A B	C	D	E	F	G	Н	1	J	ĸ	L	M	N	0	р	Q	R	s	T	U	V
111		<u> </u>					THROUGH	ידעי				EM	ISSIC	N FACT	ORS				EMISS	ONS	
		E DESCRIPTION			DAYS			MAX.	AVG.		TSP	PM10		PM10	(CONTRO		TS	P	PM	<u></u>
118	CODE	NAME FROM DRAG #3	NAME TO	/DAY	MR	/YR	MATERIAL	TONH	TON/H	TONYR	LB/TON	LB/TON	REF	FRAC.	MOIST.			LB/HR	T/YR	LB/HR	TMR
117		CLINKER ELEVATO	CLINKER ELEVATO PLENUM BOX	24	385		CLINKER	50	41.1	360,000	0.1500	0.0750	<u>d</u>	50%	0%	95%	20%	0.25	1.08	0.12	0.54
118	F 52	PLENUM BOX	BIN	24 24	365 365	8,760	CLINKER	50	12.3	108,000	0.1500	0.0750	<u>d</u>	50%	0%	95%	20%	0.07	0.32	0.04	***************************************
[119]	F 53	BIN	CRANE	24	365	8,760	CLINKER CLINKER	50 50	12.3	108,000	0.5000	0.2500	<u>d</u>	50%	0% 0%	95%	20% 20%	0.25	1.08	0.12	Į
120	F 54	CRANE	CRANEWAY STRG.	24	365	8.780	CLINKER	50	18.6	163,000	0.5000	0.2500	d	50%	0%	0%	20%	7.44 7.44	32.60 32.60	3.72	16.30 16.30
121	F 55	CLINKER ELEVATO	DRAG #4	24	365	6.760	CLINKER	50	28.8	252,000	0.1500	0.0750	d d	50%	0%	95%	. 207	0.22	0.95	0.11	0.47
122	F 56	DRAG #4	ELEVATOR #2	24	365	8.760	CLINKER	50	28.8	252,000	0.1500	0.0750	d	50%	0%		0%	0.22	0.95	0.11	· · · · · · · · · · · · · · · · · · ·
123	F 57	ELEVATOR #2	DRAG #5	24	365	8,760	CLINKER	50	6.2	54,000	0.1500	0.0750	ā	50%	0%	95%	90%	0.00	0.02	0.00	
124	F 58	DRAG #5	CLINKER SILO #1	24	365	6,760	CLINKER	50	2.4	21,080	0.1500	0.0750	ā	50%	0%		90%	0.00	0.01	0.00	
128	F 50	DRAG #6	CLINKER SILO #2	24	365	8,760	CLINKER	50	2.4	21,060	0.1500	0.0760	d	50%	0%	95%	90%	0.00	0.01	0.00	0.00
127	F 24	DRAG #5 ELEVATOR #2	CLINKER SILO #3	24	365	8,760	CLINKER	50	1.4	11,880	0,1500	0.0750	<u>d</u>	50%	0%	95%	90%	0.00	0.00	0.00	
128	FAS	STACKER BELT #1	STACKER BELT #1	24	365	8,760	CLINKER	50	22.8	196,000	0.1500	0.0750	d	50%	0%	95%	0%	0,17	0.74	0.08	
129	F 83	STACKER BELT #2	STACKER BELL BZ	24 24	365 365	8,760	CLINKER	50	22.8	198,000	0.1500	0.0750	d	50%	0%	95%	0%	0.17	0.74	0.08	· ····································
130		STACKER	PILE (OPEN AREA)	24	365	8,760 8,760	CLINKER CLINKER	50 50	22.6	196,000	0.1500	0.0750	d	50%	0%		0%	0.17	0.74	0.08	THE PROPERTY OF
[131]	1	[- 444	0,100	original.		22.6	198,000	0,5000	0.2500	<u>d</u>	50%	0%	95%	50% Totals:	0.28 47.20	1.24 78.85	0.14 14.45	
132	CLINKE	R RECLAIM		<u> </u>					 	ļ			<u> </u>	 		╂	I USEIN.	91.20	10.00	15.40	37.00
133	F 65A	STORAGE	CRANE	24	365	8,760	CLINKER	300	18.6	163,000	0.5000	0.2500	d	50%	0%	0%	50%	4.65	20.38	2.33	10.19
134	F 65	CRANE	BIN #1	24	365	8,760	CLINKER	300	6.2	54,333	0.5000	0.2500	d	50%	0%	0%	50%	1.55	6.79	0.78	
135	F 66	CRANE	BIN #2	24	385	6,760	CLINKER	300	6.2	54,333	0.5000	0.2500	d	50%	0%	0%	50%	1.55	8.79	0.78	3.40
135	F 67	CRANE	BIN #3	24	365	8,760	CLINKER	300	6.2	54,333	0 5000	0.2500	ã	50%	0%	0%	50%	1.55	6.79	0.78	
138	F 08	GALLERY PILE	RECLAIM DELT #1	24	305	8,700	CLINKLIK	100	5.7	49,500	0.1500	0.0760	į d	60%	0%	96%	90%	0.00	0.02	0.00	0.01
139		GALLERY PILE	RECLAIM BELT #1	. 24	385	8,760	CLINKER	100	5.7	49,500	0.1500	0.0750	d	50%	0%	95%	90%	0.00	0.02	0.00	0.01
146		GALLERY PILE	RECLAIM BELT #2	24	365	6,760	CLINKER	100	5.7	49,500	0.1500	0.0750	d	50%	0%	95%	90%	0.00	0.02	0.00	0.01
141	F 72	RECLAM BELT #1	RECLAIM BELT #2	24	365	8,760	CLINKER	100	5.7	49,500	0.1500	0.0760	d	50%	0%	95%	90%	0.00	0.02	0.00	
142	F 73	RECLAIM BELT #2	RECLAIM BELT #2 RECLAIM BELT #3	24	365	8,760	CLINKER	100	11.3	99,000	0.1500	0.0750		50%	0%	# A A 12 F	90%	0.01	0.04	0.00	
143	F 74	CLINKER SILO #1	RECLAIM BELT #3	24 24	365 365	8,760	CLINKER	100	11.3	99,000	0.1500	0.0750	4	60%	0%	95%	90%	0.01	0.04	0.00	
1744	F 75	CLINKER SILO #2	RECLAIM BELT #3	24	365	8,760 8.760	CLINKER	100	2.1	18,000	0.1500	0.0760	ď	50%	0%	96%	90%	0.00	0.01	0.00	
745	F 78	CLINKER SILO #3	RECLAIM BELT #3	24	365	8,760	CLINKER CLINKER	100	2.1	18,000	0,1500	0.0750	<u> </u>	50%	0%	95%	90%	0.00	0.01	0.00	0,00
146	F 77	RECLAIM BELT #3	ELEVATOR #3	24	365	8.780	CLINKER	100	28.8	252,000	0.1500 0.1500	0.0750	d	50% 50%	0%	95%	90% 0%	0.00	0.01	0.00	
147	F 78	ELEVATOR #3	CLINKER BIN DRAG	24	365	8.780	CLINKER	100	28.8	252,000	0.1500	0.0750	- d	50%	0%	95%	0%	0.22	0.95	0.11 0.11	0.47
148	F 79	CLINKER BIN DRAG	BIN #1	24	365	8.760	CLINKER	100	9.6	84,000	0.6000	0.2500	ď	50%	0%		0%	0.24	1.05	0.12	4 44.42
149		CLINKER BIN DRAG	BIN #2	24	365	8,760	CLINKER	100	9.6	84,000	0.5000	0.2500	ď	50%	0%	95%	0%	0.24	1.05	0.12	
150	F 81	CLINKER BIN DRAG	BIN #3	24	385	8,760	CLINKER	100	9.6	84,000	0.5000	0.2500	ā	50%	0%	95%	0%	0.24	1.05	0.12	
	OFFERRAL											1		T	<u> </u>		Totals:	10.49	45.96	5.25	
184	CEMEN KILN #1	T KILN DUST HANDLI UPSET:	NG																		
12	F 82	MULTICLONE	SCREW			······································	A.V.						ļ								[]
154 155	F 83	SCREW	ELEVATOR	24 24	5	114	CKD	<u>8</u>	ļ <u>\$</u> .	229	0.2700	0.1350		50%	0%	Corrector town	85%	0.00	0.00	0.00	
1156	F 84	ELEVATOR	SCREW	24	5	114 114	CKD CKD	8	 	229	0.2700	0.1350		50%	0%	98%	85%	0.00	0.00	0.00	
157	F 85	SCREW	BIN .	24	5	!! ? . 114	ČKD	8	2	229	0.2700	0.1350	€	50%	0%		85%	- 0.00	0.00	0.00	g
158	F 109	BIN	LOADER	24	- -	114	CKD	<u>8</u>		229 229	0.2700	0.1350	- <u>\$</u> -	50%	0%		85%	0.08	0.00	0.04	0.00
159		ESP	SCREW	24	172	4,118	CKD	4	 	2,059	0.2700 0.2700	0.1350 0.1350	<u> </u>	50%	0%		0%	0.54	0.03	0.27	0.02
180	F 87	SCREW	BUNKER	24	172	4,118	CKD	- 1	┼──┼	2,059	0.2700	0.1350	<u>e</u>	50% 50%	0%		85% 0%	0.00 0.14	0.00	0.00	0.00
[151]	F 86	BUNKER	LOADER	24	172	4.118	ČKD			2.059	0.2700	0.1350		50%	0%	0%	0%	0.14	0.28	0.07	0.14
152	KILN #1	DUST RETURN:		'				•	' '				"	, Jun	"/"	· · · · ·	0.78	9.14	J.24	A'AL	
163	F 82	MULTICLONE	SCREW	24	360	6,646	CKD	8	3	25,920	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.03	0.00	0.02
184	F 83	SCREW	ELEVATOR	24	360	8,646	CKD	8	3	25,920	0.2700	0.1350	ě	50%	0%		0%	0.01	0.03	0.00	
168	F 104	ELEVATOR	SCREW	24	360	8,846	CKD	ě	3	25,920	0.2700	0.1350		50%	0%		90%	0.00	0.00	0.00	
187	F 02	SCREW PRECIPITATOR	PADDLE MIXER	24	360	8,846	CKD	8	3	25,920	0.2700	0.1350		50%	0%		90%	0.02	0.07	0.01	0.03
188		SCREW	SCREW	24	193	4,843	CKD	4	1	8,415	0.2700	0.1350		50%	0%		90%	0.00	0,00	0.00	0.00
169		ELEVATOR	ELEVATOR SCREW	24	193	4,643	CKD	4	ļ !	6,415	0.2700	0.1350	. 8	50%	0%	4	85%	0.00	0.00	0.00	£
170	F 95	SCREW	LEACH TANK	24 24	193	4,643	CKD	. 4	1. 1	8,415	0.2700	0.1350	. 9	50%	0%	\$ -	85%	0.00	0.00	0.00	I 017 "
171	KH.N #2				193	4,843	CKD	<u>.</u>	↓1 .	8,415	0.2700	0.1350		50%	0%	0%	85%	0.06	0.13	0.03	0.06
										<u> </u>	<u> </u>	1	<u> </u>	<u> </u>	<u> </u>			L		<u> </u>	

	A B	T c	D	E	F	G	Н	1 1	1 1	<u> </u>			1 21		Ps 1		73		-	U	v 1
17	7			 			THROUGH	<u> </u>	<u> </u>	<u> </u>	<u> </u>	M	N	0	P	Q	R	S	FAH00		_ <u>_</u> _
2	SOURC	E DESCRIPTION		HRS	DAYS	HRS	ITINOOON	MAX.	AVG.	ı	TSP	PM10	422IC	N FACT		ONTRO		TC	EMISS P	ONS PM1	, ·
	CODE	NAME FROM	NAME TO	/DAY		4	MATERIAL	TONAH	TONA	TONYR	LB/TON	LB/TON	DEC		MOIST	CAPT		LB/HR	T/YR	LB/HR	T/YR
172	F 96	MULTICLONE	SCREW	24	5	114	CKD	5	2	229	0.2700	D.1350	0	50%	0%	99%	65%	0.00	0.00	0.00	0.00
173		SCREW	BIN	24	5	114	CKD	5	2	229	0.2700	0.1350	8	50%	0%	99%	85%	0,00	0.00	0.00	0.00
	F 98	BIN	LOADER	24	. š	114	CKD	5	2	229	0 2700	0.1360		60%	0%	0%	0%	0.54	0.03	0 27	0.02
175		ESP	SCREW	24	172	4,118	CKD	4	1	2.059	0.2700	0.1350		60%	0%	99%	85%	0.00	0.00	0.00	0.00
176	A 100 Thurs	SCREW	BUNKER	24	172	4,118	CKD	4	1	2,059	0.2700	0.1350		50%	0%	0%	0%	0.14	0.28	0.07	0.14
177	F 107 KILN #2	BUNKER	LOADER	24	172	4,118	CKD	4	1	2,069	0.2700	0.1350		50%	0%	0%	0%	0.14	0.28	0.07	0.14
175	F 96	DUEST RETURN:	SCREW	100,50			ļ		ļ <u>.</u> .			<u> </u>	ļ	L							
180	F 96	SCREW	ELEVATOR	24	360	8,648 8,648	CKD	0	3	21,760	0.2700	0.1350		50%	- 0%	99%	0%	0.01	0.03	0.00	0.01
181	F 100	ELEVATOR	PADDLE MIXER	24	360	8.646	CKD	0	1 "	21,760 21,760	0.2700	0.1350 0.1350	8	50% 50%	0%	99%	90%	0.01	0.03	0.00	0.01
182	F 101	PRECIPITATOR	SCREW	24	193	4,043	CKD		33	5,388	0.2700 0.2700	0.1350	#	50%	0%	99%	90%	0.01	0.00	0.00	0.01
	F 102	SCREW	SCREW	24	193	4.843	CKD	20 20	 -	5,388	0.2700	0.1350		50%	0%	99%	85%	0.00	0.00	0.00	0.00
184	F 103	SCREW	ELEVATOR	24	103	4,643	CKD	20	1 1	5,386	0.2700	0.1350	e	50%	0%	99%	85%	0.00	0.00	0.00	0.00
185	· 11 🛧 🕶 rm - m v 11	ELEVATOR	SCREW	24	193	4,643	CKD	20	1	5,388	0.2700	0.1350	ě	50%	0%	99%	85%	0.00	0.00	0.00	0.00
186	F 105	SCREW	LEACH TANK	24	193	4,643	CKD	20	1	5,386	0.2700	0.1350	8	50%	0%	99%	85%	0.00	0.00	0.00	0.00
	CHAIGH	GRINDING AND ASSO	CHATEC HANDENIA		<u> </u>												Totala:	1.82	1.55	0.91	0.77
188	WILL #1	ALTERNATION VAND VOOR	AT IER UVURTING	 	 	ļ		ļ		ļ			ļ								
190	F 110	CLINKER BIN #1	CLINKER FEEDER	24	208	5000	CLINKER	40	24	120,000	0.1500	0.0300	d	20%	0%	95%	90%	0.02	0.05	0.00	0.01
191		CLINKER FEEDER	BELT	24	208	5.000	CLINKER	40	24	120,000	0.1500	0.0300	d	20%	0%	95%	90%	0.02	0.05	0.00	0.01
192	F 112	GYPSUM BIN	CRANE	24	208	5,000	GYPSUM	300	2	7,579	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.00	0.00	0.00
[193]	F 112A	CRANE	GYPSUM FEEDER	24	208	5,000	GYPSUM	300	2	7,579	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.00	0.00	0.00
	F 113	GYPSUM FEEDER	BELT	24	208	5,000	GYPSUM	10	2	7,579	0.0029	0.0014	Ç	48%	0%	95%	90%	0.00	0.00	0.00	0.00
195	F 114	BELT	MILL #1	24	208	5,000	CLINKER	40	24	120,000	0.1500	0.0300	đ	20%	0%	95%	90%	0.02	0.05	0.00	0.01
196 197				24	208	5,000	GYPSUM	10	2	7,579	0.0029	0.0014	Č	48%	0%	95%	90%	0.00	0.00	0.00	0.00
	MHLL #2			24	208	5,000	CEMENT	80	51	255,158	0.2700	0.1350		50%	0%	99%	90%	0.01	0.03	0.01	0.02
ПП	1116	CLINKER BIN #2	CLINKER FEEDER	24	208	5,000	A1 12 12 # 20			4			1								
200	F 116	CLINKER FEEDER	BELT	24	208	5,000	CLINKER	40	24 24	120,000	0.1500	0.0300	ď	20%	0%	98%	90%	0.02	0.05	0.00	0.01
	F 117	GYPSUM BIN	CRANE	24	208	5,000	GYPSUM	300	24	120,000 7,579	0.1500	0.0300	d	20% 48%	0% 0%	96%	90% 90%	0.02 0.00	0.06	0.00	0.01
202	F 117A	CRANE	GYPSUM FEEDER	24	208	5,000	GYPSUM	300	2	7,579	0.0029	0.0014	C	48%	0%	0%	90%	0.00	0.00	0.00	0.00
203 203	F 118	GYPSUM FEEDER	BELT	24	208	5,000	GYPSUM	10	2	7,579	0.0029	0.0014	C	48%	0%	95%	90%	0.00	0.00	0.00	
204	119	BELT	MILL #2	24	206	6,000	CLINKER	40	24	120,000	0.1500	0.0300	d	20%	0%	95%	90%	0.02	0.05	0.00	0.01
206				24	208	5,000	GYPSUM	40	2	7,579	0.0029	0.0014	C	48%	0%	95%	90%	0.00	0.00	0.00	0.00
207	F 120	MILL#1	AF14F11T M1 M14-A5	24	208	5,000	CEMENT	80	51	255,158	0.2700	0.1350		50%	0%	99%	90%	0.01	0.03	0.01	0.02
208	F 121	MILL #2	CEMENT ELEVATOR CEMENT ELEVATOR	1 7 1	208	5,000	CEMENT	120	77	382,737	0.2700	0.1350	e	50%	0%	99%	90%	0.02	0.05	0.01	0.03
209	122	CEMENT ELEVATOR		24 24	208	5,000	CEMENT	120	77	362,737	0.2700	0.1350		50%	0%	99%	90%	0.02	0.05	0.01	0.03
210	F 123	AIRSLIDE	SEPARATOR	24	208	5,000	CEMENT	240 240	153 153	765,474 768,474	0.2700	0.1350 0.1350	<u> </u>	50%	0%	99%	90%	0.04	0.10 0.10	0.02 0.02	0.05
211	124	SEPARATOR	RETURN SCREW	24	208	5,000	CEMENT	240	51	510.316	0.2700	0.1350	8	60%	0%	99%	90%	0.04 0.01	0.10	0.02	0.00
212	125	RETURN SCREW	MILL #1	24	208	5,000	CEMENT	80	51	255,158	0.2700	0.1350	8	50%	0%	99%	90%	0.01	0.03	0.01	0.02
[2]3	126	RETURN SCREW	MILL #2	24	208	5,000	CEMENT	80	51	255,158	0.2700	0.1350	ě	50%		99%	90%	0.01	0.03	0.01	0.02
214	F 127	SEPARATOR	AIRSLIDE	24	208	5,000	CEMENT	80	51	255,158	0.2700	0.1350		50%	0%		99%	0.14	0.34	0.07	0.17
218	128	AIRSLIDE	COOLER	24	208	5,000	CEMENT	80	51	255,158	0.2700	0.1350		50%	0%]	99%	0.14	0.34	0.07	0.17
217	WILL #3	OVIER	FK PUMP	24	208	5,000	CEMENT	80	51	255,168	0.2700	0.1350		50%	0%		99%	0.14	0.34	0.07	0.17
218		CLINKER BIN #3	CLINKER FEEDER	34	200	E 000	CI INVEN					<u> </u>	ļ <u>.</u>	<u> </u>	L						
219	F 131	CLINKER FEEDER	BELT	24	208	5,000 5,000	CLINKER	40	26	127,579	0.1500	0.0300	d	20%	0%	95%	90%	0.02	0.05	0.00	0.01
220	5 1433	ROCK BIN	ROCK FEEDER	24	208	5,000	ROCK	40 75	26	127,570	0.1500	0.0300	₫	20%		95%	90%	0.02	0.05	0.00	0.01
221	F 133	ROCK FEEDER	BELT	24	208	5.000	ROCK	75	- 6	<u> </u>	0.0029	0.0014	Ę.	46%	0% 0%	95% 95%	90%	0.00	0.00	0.00	0.00
222	F 134	GYPSUM BIN	CRANE	24	208	5,000	GYPSUM	300	2	7,579	0.0029	0.0014	C	48%	0%	95%	90%	0.00	0.00	0.00	0.00
223	F 134A	CRANE	GYPSUM FEEDER	24	208	5,000	GYPSUM	300	2	7.679	0.0029	0.0014	c	46%		0%	90%	0.00	0.00	0.00	0.00
441	F 135	GYPSIM FEEDER	BEI T	24	206	5,000	GYPSUM	10	2	7,679	0.0029	0.0014	č	48%	0%	1 5 7 7 1	90%	0.00	0.00	0.00	0.00
1442	136	Hill 1	MILL #3	24	208	6,000	CLINKER	40	20	127,670	0.0020	0.0014	Ç	48%	0%	95%	90%	0.00	0.00	0.00	0.00
229	į			24	208	5,000	ROCK	75	0	L	0.0029	0.0014	c	48%	0%	95%	90%	0.00	0.00	0.00	0.00
reerr		<u> </u>		24	208	5,000	GYPSUM	10	2	7,579	0 0029	0.0014	Ç	46%	0%	95%	90%	0.00	0.00	0.00	0.00

	ODE	E DESCRIPTION NAME FROM					THROUGH														
3 C 228 229 F 230 231 F 252 233 F	ODE		1				Inkouchi	PUT		1		EM	iissio	N FACT	ORS				EMISS	ONS	
228 229 F 230 231 F 232 233 F	T	NAME FROM	(· · · · · · · · · · · · · · · · ·		DAYS			MAX.	AVG.		TSP	PM10		PM10	C	ONTRO	L	TS	P	PM	10
229 F 230 231 F 232 233 F	137		NAME TO	/DAY	YR	/YR	MATERIAL	TON/H	TONH	TON/YR	LB/TON	LB/TON	REF	FRAC.	MOIST.	CAPT.	BUILD.	LB/HR	TAR	LB/HR	TMR
230 231 F 232 233 F	113(···		24	208	5,000	CEMENT	80	51	255,158	0.2700	0.1350	8	50%	0%	95%	90%	0.07	0.17	0,03	0,09
231 F 232 233 F		MILL #3	CEMENT ELEVATOR	· · · · · · · · · · · · · · · · · · ·	208	5,000	CEMENT	120	77	382,737	0.2700	0.1350		50%	0%	95%	90%	0.10	0.26	0.05	0.13
232 233 F				24	208	5,000	Masonry	120	Q	н	0.2700	0.1350	8	50%	0%	95%	90%	0.00	0.00	0.00	0.00
233 F	138	CEMENT ELEVATOR	AIRSLIDE	24	208	5,000	CEMENT	120	77	382,737	0.2700	0.1350		50%	0%	95%	90%	0.10	0.26	0.05	0,13
233)r	1222	.		24	208	5,000	Masonry	120	0	- 1	0.2700	0.1350	. 0	50%	0%	95%	90%	0.00	0.00	0.00	0.00
5 77 T.A.	139	AIRSLIDE	SEPARATOR #2	24	208	5,000	CEMENT	120	77	382,737	0.2700	0.1350		50%	0%	95%	90%	0.10	0.28	0.05	0.13
1512	140	SEDADATOD 20		24	208	5,000	Masonry	120	0		0.2700	0.1350		50%	0%	95%	90%	0.00	0.00	0.00	0.00
235 F 236	1172	SEPARATOR #2	RETURN SCREW	24	208	5,000	CEMENT	80	51	255,158	0.2700	0.1350		50%	0%	95%	90%	0.07	0.17	0.03	
237 F	145	DETHINK CODEM	1411 1 445	24	208	5,000	Masonry	- 80	0		0.2700	0.1350	. e	50%	0%	95%	90%	0.00	0.00	0.00	acceptance of the same of
238	141	RETURN SCREW	MILL #3	24	208	5,000	CEMENT	80	51	255,158	0.2700	0.1350	<u>e</u>	50%	0%	95%	90%	0.07	0.17	0.03	
239 F	142	CEDADATOD 40	4106110#	24	208	5,000	Masonry	80	0	-	0.2700	0.1350		50%	0%	95%	90%	0.00	0.00	0.00	0.00
527	***	SEPARATOR #2	AIRSLIDE	24	208	5,000	CEMENT	40	26	127,579	0.2700	0.1350		50%	0%	95%	90%	0.03	0.09	0.02	
241 F	143	AIRSLIDE	oooire	24	208	5,000	Masonry	40	0	· [0.2700	0.1350		50%	0%	95%	90%	0.00	0.00	0,00	5
242	1:22	VILORINE	COOLER	24	208	5,000	CEMENT	40	26	127,579	0.2700	0.1350		50%	0%	95%	90%	0.03	0.09	0.02	
243 F	144	COOLER	CH DINAD	24	208	5,000	Masonry	40	0	. ؛ ر	0.2700	0.1350	e	50%	0%	95%	90%	0.00	0.00	0.00	I
244	1:37	AAAFED	FK PUMP	- 24	208	5,000	CEMENT	40	26	127,579	0,2700	0.1350	<u>. e</u>	50%	0%	95%	90%	0.03	0.09	0.02	
اخطونتها	ά cei	MENT SHOS FROM MH	10 41 5 40	24	208	5,000	Warouth	40	Ō	-	0.2700	0.1350		50%	0%	95%	90%	0.00	0.00	0.00	0.00
246 F	145	FK PUMP (MILL#1,#2	1 D E T D #4	أيما	أير								_	[i				ĺ	•		
247 F		FK PUMP (MILL#1,#2		24	16	375	CEMENT	80	0		0.2700	0.1360	. e	50%	0%	99%	0%	0.00	0.00	0.00	- · · · · · · · · · · · · · · · · · · ·
248 F	147	FK PUMP (MILL#1,#2		24	16	375	CEMENT	80	39	14,737	0.2700	0.1350		50%	0%	99%	0%	0.11	0.02	0.05	
240 F	148	FK PUMP (MILL#1 #2		24 24	18	375	CEMENT	80	39	14,737	0.2700	0.1350	. ●	60%	0%	99%	0%	0.11	0.02	0.05	4 - 41 - 4
250 F		FK PUMP (MILL#1.#2	SILO	24	16	376 375	CEMENT	80	39	14,737	0.2700	0.1350	₫.	50%	0%	98%	0%	0.11	0.02	0.06	
281 F		FK PUMP (MILL#1.#2	SH O #A	24			CEMENT	80	39	14,737	0 2700	0 1350		50%	0%	99%	0%	0.11	0.02	0.05	
252 -		FK PUMP (MILL#1.#2	SII O #7	24	- 16	375 375	CEMENT	80	39	14,737	0.2700	0.1350	. .	50%	0%	99%	0%	0.11	0.02	0.05	
253 F	152	FK PUMP (MILL#1,#2	SII O #8	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	<u>.</u>	50%	0%	99%	0%	0.11	0.02	0.05	
254 F	153	FK PUMP (MILL#1 #2	SILO #9	24	18	375	CEMENT	80 80	39	14,737	0.2700	0.1350		50%	0%	99%	0%	0.11	0.02	0.05	
265 F	154	FK PUMP (MILL#1,#2	SILO #10	24	18	375	CEMENT	80	39	14,737	0.2700	0.1350		50%	0%	99%	0%	0.11	0.02	0.05	
256 F	155	FK PUMP (MILL#1,#2	SILO #11	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	_ e	60%	0%	99%	0%	0.11	0.02	0.05	4 - 404- 000 40
257 F	156	FK PUMP (MILL#1,#2	SILO #12	24	16	376	CEMENT	80	39	14,737	0.2700	0.1350		50%	0%	99%	0%	0.11	0.02	0.08	2
258 F	167		SILO #13	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350		50%	0%	99%	0%	0.11	0.02	0.06	
259 F	158		SILO #14	24	18	375	CEMENT	80	39	14,737	0.2700	0.1350	ļ <u>•</u>	50%	0%	90%	0%	0.11	0.02	0.08	
250 T	O CE	MENT SILOS FROM MIL					- Company of the comp	90	28	14,737	0.2700	0.1350	•	50%	0%	99%	0%	0,11	0.02	0.05	0.01
[261]F	159	FK PUMP (MILL #3)	SILO #1	24	15	348	Masonry	40	0.		0.2700	0.1350	- -	50%	0%	99%	0%	0.00	0.00	0.00	0.00
262 F	180	FK PUMP (MILL #3)	SILO #2	24	15	348	CEMENT	40	18	6,376	0.2700	0.1350	8	50%	0%		0%	THE RESIDENCE OF THE PERSON NAMED IN	0.00	~	- w-
263 F	181	FK PUMP (MILL #3)	SILO #3	24	15		CEMENT	40	16	6,376	0.2700	0.1350				99%		0.05		0.02	
284 F		FK PUMP (MILL #3)	SILO #4	24	15	···	CEMENT	40	18	6,376	0.2700	0.1350	<u>Ļģ</u> .	50% 50%	0% 0%	99%	0% 0%	0.05 0.05	0.01	0.02 0.02	
265 F		FK PUMP (MILL #3)	SILO #5	24	15		CEMENT	40	18	6,376	0.2700	0.1350		50%	0%	99%	0%	0.05	0.01	0.02	
266 F		FK PUMP (MILL #3)	SILO #6	24	15	348	CEMENT	40	5	1,886	0.2700	0.1350	8	50%	0%	99%	0%	0.03	0.00	0.02	0.00
267 F		FK PUMP (MILL #3)	SILO #7	24	15	348	CEMENT	40	5	1,688	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.00	0.01	0.00
268 F		FK PUMP (MILL #3)	SILO #8	24	15	348	CEMENT	40	<u>.</u>	1,686	0,2700	0.1350	ě	50%	0%	99%	0%	0.01	0.00	0.01	0.00
259 F		FK PUMP (MILL #3)	SILO #9	24	15	348	CEMENT	40	5	1,686	0.2700	0.1350		50%	0%	89%	0%	0.01	0.00	0.01	0.00
270 F		FK PLIMP (MILL #3)	SILO #10	24	15	348	CEMENT	40	6	1.886	0.2700	0.1350	ě	50%	0%	99%	0%	0.01	0.00	0.01	0.00
271 F		FK PUMP (MILL #3)	SiLO #11	24	16	348	CEMENT	40	. 5	1.888	0.2700	0.1350	ě	50%	0%	99%	0%	0.01	0.00	0.01	0.00
272 F		FK PUMP (MILL #3)	SILO #12	24	15	348	CEMENT	40	5	1,888	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.00	0.01	0.00
273 F	171_	FK PUMP (MILL #3)	SILO #13	24	15	348	CEMENT	40	18	6,376	0.2700	0.1350	8	50%	0%	99%	0%	0.05	0.00	0.02	
273 F	1173	FK PUMP (MILL #3)	SILO #14	24	15		CEMENT	40	5	1,686	0.2700	0.1350		50%	- 0%	89%	0%	0.01	0.00	0.01	
275		IT L CAROLITE										<u> </u>	†· 		¥#		Totals:	3.11	3.79	1.51	
14491°		IT LOADOUT											†	 			, v.=10:		4.19	1,91	
1996	479	OTTOM WITHDRAWAL								[[······································		1
278 F		SILO #1	SCREW #1	24	8		CEMENT	150	75	13,889	0.2700	0.1350		50%	0%	95%	90%	0.10	0.01	0.05	0.00
1379 E		SILO #2	SCREW #1	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	•
280 F 281 F	11/2	SILO #3	SCREW #1	24	8		CEMENT	150	76	13,669	0.2700	0.1350	-	50%	0%	95%	90%	0.10	0.01	0.05	
282 F	11/4	SILO#4	SCREW	24	8		CEMENT	150	75	13,669	0.2700	0.1350		50%	0%	95%	90%	0.10	0.01	0.05	
		SILO #5	SCREW	24	8		CEMENT	150	75	13,669	0.2700	0.1350	ē	50%	0%	95%	90%	0.10	0.01	0.05	
283 F	11(0	SCREW	SCREW #1	24	38	911	CEMENT	150	75	68,346	0.2700	0.1350		50%	0%	95%	90%	0.10	0.06	0.05	

ODE	NAME FROM	NAME TO	/DAY	ΛΥR	NR	MATERIAL.	TOMAG	TONAL	TONYR	LB/TON	LB/TON	occi	COAC I	AACHOT !	CART		LB/HR	T/YR	LB/HR	1 1/
179	SCREW #1	ELEVATOR # 1	24	38	911	CEMENT	150	75	68,346	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.05	0.05	
186	SILO #6	SCREW#2	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350		50%	0%	95%	90%	0.10	0.01	0.05	
181	SILO #7	SCREW #2	24	ä	182	CEMENT	150	75	13 689	0.2700	0 1350		50%	0%		90%		// T-#- F	0.05	
182	SILO #8	SCREW #2	1	8			1								95%		0 10	0.01		4
183	SCREW #2	SCREW #4	24		182		150	76	13,669	0.2700	0.1350		60%	0%	95%	90%	0.10	0.01	0.06	ŧ
184	SILO #12	SCREW #3	24	23	547		150	75	41,008	0.2700	0.1350		50%	0%	95%	60%	0,10	0,03	0.05	
185	SILO #13		24			CEMENT	150	75	13,669	0.2700	0.1350	8	50%	0%	95%	90%	0.10	0,01	0.05	
188		SCREW #3	24	8	*· · · · · · · · · · · · · · · · · · ·	CEMENT	150	75	13,689	0.2700	0.1350	0	50%	0%	95%	90%	0.10	0.01	0.05	<u> </u>
+ min- : i.	SILO #14	SCREW#3	24	4 8		CEMENT	150	75	13,669	0.2700	0.1350		50%	0%	95%	90%	0,10	0,01	0.05	5
167	SCREW #3	SCREW#4	24	23	547	CEMENT	150	75	41,008	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.03	0.05	5["
188	SCREW #4	ELEVATOR #1	24	46	1,094	CEMENT	150	75	82,015	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.06	0.05	5
189	SILO #9	SCREW #6	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	~
190	SILO #10	SCREW #6	24	8	182		150	75	13,669	0.2700	0.1350	ė	50%	0%	95%	90%	0.10	0.01	0.05	
191	SILO#11	SCREW #6	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	***************************************	50%	0%	95%	90%				
192	SCREW #6	SCREW #5	24	23	547	CEMENT	150	75	41,008	· Variatio v ariatio variation		8					0.10	0.01	0.05	-1-
193	SCREW #5	ELEVATOR #1	24	23	547	CEMENT				0.2700	0,1350	e	50%	0%	95%	90%	0.10	0.03	0.05	
104	ELEVATOR #1	DISCH SCREW	24	38			150	75	41,008	0.2700	0.1350	0	50%	0%	95%	90%	0.10	0.03	0.05	
195	DISCH SCREW	RAIL LOADOUT			2,552	CEMENT	150	225	191,368	0.2700	0.1350	8	50%	0%	95%	90%	0.30		0.15	
RUCK	LOADING SYSTEM:	12-34- FOURONI	24	0	<u> </u>	CEMENT	150	n/a		0.2700	0.1350	8	50%	0%	95%	0%		0.00		↓
198	DISCH SCREW	Totaloren coordia	l <u>.</u>			<u></u>	_	.] <u></u> .			l	l		1						l
107		TRANSFER SCREW	24	36	1 1	CEMENT	150	225	191,388	0.2700	0.1350		50%	0%	95%	99%	0.03	0.01	0.02	2
198	TRANSFER SCREW	SCREW	24	38	k · . = r = . = .	CEMENT	150	225	191,368	0.2700	0.1350	8	50%	0%	95%	98%	0.03	0.01	0.02	2
	SCREW	TANK A	24	12	861	CEMENT	150	225	63,789	0.2700	0.1350	•	50%	0%	95%	85%	0.46	0.08	0.23	3
199	SCREW	TANK B	24	12	851	CEMENT	150	225	63,789	0.2700	0.1350		50%	0%	95%	85%	0.48	0.08	0.23	3
200	SCREW	TANK C	24	12	851	CEMENT	150	225	83,789	0.2700	0.1350	8	50%	0%	95%	85%	0.48	0.06	0.23	
201	TANK A	TRUCK LOADOUT	24	24	1,701	CEMENT	500	225	127,579	0.2700	0.1350	e	50%	0%	95%	25%	2.28	0.65	1.14	
202	TANK B	TRUCK LOADOUT	24	24	1,701	CEMENT	500	225	127,579	0.2700	0.1350	8	50%	0%	95%	25%	2.28	0.65	1.14	
203	TANK C	TRUCK LOADOUT	24	24	1,701	CEMENT	500	225	127,579	0.2700	0.1350		50%	0%	95%	25%		0.65	1.14	
EMEN'	T BACK SYSTEM:				}~ ::::::::::::::::::::::::::::::::::		1 300		1£1.1Y1 Z	V.21VV.	0.1330		2076	<u></u>	. 5276	4979	2.28	7.00		<u>•</u>
204	SILOS 9-14	AIRSLIDE	24	36	2 862	CEMENT	150	225	191,366	0.2700	A 4360	h	50%	- 60	~~~~				~~~~	+
205	AIRSLIDE	ELEVATOR #4	24	36		CEMENT	150	225	191,368	WITH VIEW MINISTER	0.1350	₽.		0%	95%	99%	0.03	0.01	0.02	
206	SCREW #8	AIRSLIDE	24	38		CEMENT				0.2700	0.1350	. e	50%	0%	95%	99%	0.03	0.01	0.02	-
207	AIRSLIDE	ELEVATOR #4					150	225	191,368	0.2700	0.1350	8	50%	0%	95%	90%	0.03	0.01	0.02	
208	ELEVATOR #4	ELEVATOR #5	24	38	2,552	CEMENT	150	225	191,388	0.2700	0.1350		50%	0%	96%	90%	0.03	0.01	0.02	7 1
209	ELEVATOR #5	AIRSLIDE	24 24	30	2,552	CEMENT	150	225	191,368	0.2700	0.1350		50%	0%	95%	85%	0.45	0.19	0.23	3
210	AIRSLIDE			36 36 36	2,552	CEMENT	150	225	191,368	0.2700	0.1360	. 0	50%	0%	96%	85%	0.46	0.19	0.23	1
211	SCREW	SCREW	24	36	2,652	CEMENT	150	225	191,368	0,2700	0.1350		50%	0%	95%	85%	0.45	0.19	0.23	į.
		TANK A	24	12	851	CEMENT	150	225	63,789	0.2700	0.1350	9	50%	0%	95%	85%	0.48	0.06	0.23	3
212	SCREW	TANK B	24	12	861	CEMENT	150	225	63,769	0 2700	0.1350		50%	0%	95%	85%	0.48	0.06	0.23	٦1-
213	SCREW	TANK C	24	12	851	CEMENT	150	225	63,789	0.2700	0.1350		50%	0%	95%	85%	0.48	0.06	0.23	
2004	AIRSLIDE	RAIL LOADOUT	24	Ō		CEMENT	160	rve		0.2700	0.1350		50%	0%	95%	0%			1,24	3
EWEN.	T PACKING:]		1									<u></u>				1
214	SCREW #1	ELEVATOR #2	24	0		CEMENT	150	n/a		0.2700	0.1350	8	50%	0%	95%	99%	-			t
215	SCREW #2	ELEVATOR #2	24	Ö		CEMENT	150	n/a		0.2700	0.1350	8	50%	0%	95%	99%	·······		-	1
216	SCREW #4	ELEVATOR #2	24	0		CEMENT	150	n/a		0.2700	0.1350		50%	0%	95%	99%		:		1-
217	SCREW #5	ELEVATOR #2	24	0	-	CEMENT	150	N/a	i	0.2700	*	9				98%				1
218	ELEVATOR #2	N. S. SCREW	24	<u>-</u>	<u> </u>	CEMENT		n/a			0.1350		50%	0%	95%		-	ļ -		٠.
219	N. S. SCREW	BIN #1	24	- 5	 	CEMENT		rva rva		0.2700	0.1350		50%	0%	95%	99%		<u> </u>		- -
220	N. S. SCREW	BIN #2	24		} <u>-</u>	CEMENT				0.2700	0.1350	8	50%	0%	95%	89%			-	4.
221	BIN #1	PACKER # 1	24		<u> </u>			n/a	[<u>-</u>]	0.2700	0.1350		50%	0%	95%	99%		<u> </u>		1
222	BIN #2	PACKER # 2		0		CEMENT		ηa		0.2700	0.1350	. 0	50%	0%	95%	99%			*	1
223	BIN #1/ PACKER #1		24	Q.	•	CEMENT	150	rva	-	0.2700	0.1350		50%	0%	95%	99%	, ,	-		1
224		SPILL AIRSLIDE	24	0		CEMENT	150	rva		0.2700	0.1350		50%	0%	95%	99%		-	-	1
225	BIN #2/ PACKER #2	SPILL AIRSLIDE	24	0	<u> </u>	CEMENT	150	n/e	_	0.2700	0.1350		50%	0%	95%	99%	-			T
	SPILL AIRSLIDE	ELEVATOR #2	24	0	<u></u>	CEMENT	150	n/a	-	0.2700	0.1350	ē	50%	0%	95%	99%	-	-	+	1
226	ELEVATOR #2	N. S. SCREW	24	0	l	CEMENT	150	ηa	-	0.2700	0.1350	8	50%	0%	95%	99%	-			†
227	N. S. SCREW	BIN #1	24	O		CEMENT	150	Ne		0.2700	0.1350		50%	0%	95%	99%		<u> </u>	······	†
228	N. S. SCREW	BIN #2	24	0		CEMENT	150	n/a		0.2700	0.1350	3 " 1	50%	0%	95%	99%		ļ		·· •
220	SILO #6	AIRSLIDE	24	Ō		CEMENT		n/a		0.2700	0.1350		50%	0%	95%	99%	•	• •		1
230	AIRSLIDE																			

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Modified by DEQ

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ASH GROVE CEMENT COMPANY, INKOM PLANT, 1993 ROAD INPUTS

CATEGORY	MATERIAL		Number	TR	UCK WEIG	нТ	Material	Avg	Material
			of	Empty	Loaded	Avg	Net	Speed	
		÷1111	Wheels	(Tons)	(Tons)	(Tons)	(Tons)	(mph)	(T/yr)
RAW	Silica		26	18	53	35	36	8	43,571
MATERIALS	Iron Ore		26	18	53	35	36	8	4,841
	Gypsum		26	18	53	35	36	8	22,737
FUELS	Tires		14	7	17	12	10	. 8	3,050
	Coal		26	18	53	35	36	8	70,000
	Oll		10	11	25	18	14	8	9,150
ADDITIVES	Grinding Aid		18	13	40	26	28	8	191
SHIPMENTS	Cement (Bulk)		26	18	53	35	36	8	382,737
	Duracem (Bulk)		18	13	40	26	28	8	*
	Potash		18	13	40	26	28	8	12,200
	CKD		10	7	17	12	10	8	4,575
	Durapoz		10	7	17	12	10	8	+
INTERNAL	High Limestone		4	30	42	36	12	8	217,854
TRANSFERS	Low Limestone		4	30	42	36	12	8	217,854
	Gypsum		4	30	42	36	12	8	22,737
	Iron Ore		4	30	46	38	16	8	4,841
	Silica		4	30	42	36	12	8	43,571
	Quarry Rock		4	30	42	36	12	8	40,000
	Miscellaneous		4	30	33	32	3	8	
	Miscellaneous		4	30	31	31	1	8	
	Miscellaneous		4	30	31	30	1	8	
MISCELLANEOUS	Employees		4				0	8	
	Number of rain days per yea	90							

11/24/97, 11:18 AM, DEQPROP1.XLS.xls, Road Inputs

ASH GROVE CEMENT COMPANY, INKOM PLANT; PROPOSED PAVED ROAD EMISSIONS SUMMARY

		Paveo	Road D	ata					TSP	TSP	PM-10	Total	Total
Segment	Segment	Surface	Silt	Silt	Material	Total	Rain	Water	Empty	Loaded	Emissions	Emissions	Emissions
No.	Length	dust		Loading	Trips	Mileage	Days	Control	Trucks	Trucks	Paved	TSP	PM10
	(mi)	(lb/mi)	%	(oz/yd2)	(#/yr)	(Mi/yr)	(year)	%	lb/VMT	lb/VMT	Ib∕∨MT	(T/yr)	(T/yr)
3A	0.03	1750.00	12.50	0.35	24546	700	90	50.00	1.14	2.48	0.39		
3B	0.05	1750.00	12.50	0.35	30267	1440	90	50.00	1.12	2.40	0,39		0.28
3C	0.03	1750.00	12.50	0.35	16930	483	90	50.00	1.12	2.22	0.39	0.33	0.09
3D	0.02	1750.00	12.50	0.35	16625	316	90	50.00	1.13	2.22	0,39	0.22	0.06
3E	0.02	1750.00	12.50	0,35	16320	388	90	50.00	1.14	2.22	0.39	0.27	0.07
3F	0.01	1750.00	12.50	0,35	16320	233	90	50.00	1,14	2.22	0.39	0.16	
3FF	0.03	1750.00	12.50	0.35	24728	824	. 90	50.00	1.14	2.43	0.39	0.74	0.16
31	0.01	1750.00	12.50	0.35	305	4	90	50.00	n/a	1.13	0.39	0.00	0.00
3J	0,06	1750.00	12.50	0.35	305	17	90	50.00	n√a	1.13	0.39	0.01	0.00
3K	0.03	1750,00	12.50	0.35	305	9	90	50.00	n/a	1.13	0.39	0.00	
3L	80.0	1750.00	12.50	0.35	305	25	90	50.00	n/a	1.13	0.39	0.01	0.00
3N	0.02	1750.00	12.50	0.35	1972	38	90	50.00	n/a	2.51	0.39	0.05	0.01
3R	0.03	1750.00	12.50	0.35	2861	95	90	50.00	1.01	2.04	0.39	0.07	0.02
3M	0.05	1750.00	12.50	0,35	4845	231	90	50.00	1.11	2.43	0.39	0.20	0.04
	···			TOTAL	156635	4802	:					4.01	0.92

TOTAL (LB/HR)

13.36

3.08

Segment No	Segment Length (ml)	Material	Preved Ross Surface Sill short (Baloig No.	d Date Se Loading (oa/yd2)	Empty (Lana)	El Weigh Loaded (Lone)	Avrg (Yons)	Truck Tr Empty	jos onded	Material Hot (Fons)	bjetorjej (1/yl)	Malaria! Trips (Fir)	Empty Missgs (MAY)	Londed Milesge (M/yr)	Total Milesge (Miyr)	Rain Days (year)	Sweepin & Water Control X	TSP Empty Trucks EMMT	TSP Landed Youths SAMIT	PM-10 Emissions Paved 64/461	Empty Truck TSP Emissions (744)	Loaded Truck YSP Emissions (Tip)	Yotal Emissions YSP (TAn)	Empty Track PM10 Endasiona (TAI)	Loaded Truck PM16 Emissions (TAy)	Total Envisions PM:0 (TAn)
34	0.03	rtein Liverstone Lere Une visione Liver Cite Straverson Schooling Akt Tiere	780 12 780 12 780 12 780 12 780 12 780 12 760 12		30 90 10 11	42 42 43 49 49	3 3 3			12 31 31 31 27	21.7854 21.786 484 22.72 191 886 70000		90 90 93 93 93 94	0.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	9.8 2.9 0.9 0.8 0.2 17.4 67.4	\$2 \$2 \$2 \$3 \$3 \$3 \$3	88888	1.15	214 214 251 251 251 207 113 261	0.39 0.39 0.39 0.38 0.38 0.39	2 88 2 88 2 89 2 80 2 90 2 90 2 90 2 90 2 90	0.50 0.00 0.00 6.00 5.00 0.00	9.90 9.00 9.00 9.00 9.06 9.06	0.00 0.00 4.50 0.00 0.50 0.50	9.00 9.00 9.00 9.00 0.00 0.00	0.00 0.00 0.00 8.00 8.00
		Cornect (BAD) Derivation (Bad)	1780 12 1760 12 1760 12 1760 12 1760 12		if th	23 22 23 44 44 47	***	* *	*	36 36 38 21 21	7788 3373 4374		120 807 807 100 100 100 100	93 96 3073 99 60	90 80 814.5 0.0	90 90 90 90 90 90 90	32 22 23 24 24	0.44 1.18 0.91 0.91 0.91	241 149 245 251 207 207 113	13 13 13 13 13 13	0.01 8.50 9.90 0.18 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	9.98 9.90 9.90 9.84 9.90 9.90 9.90	0.00 0.00 0.00 0.00 0.00 0.00	0.91 0.90 0.96 0.95 0.95 0.90 0.90 0.90	1 9.90 1
<u> </u>		Surrepose	17801 16	. B	· · · · · · · · · · · · · · · · · · ·	11(141.	1	CATOTAL	10	<u> </u>	24848	327.2		## A	***	i	1,14	2.48	0.30	8,18	0.44		90.0	9.57	
Sagment No.	Segment Length (må	Material	Period Ros Surface Sili Gust (Sust) %	d Date 538 Loading (optyd2)	Empty (Tons)	London (Tone)	Avg (Tens)	Tresk I Empty	tos Landed	Mariel Mat (Tota)	Material (Y/ys)	Meterlal Trips (85c)	Empty Mesge (Milyr)	Looded Missge (Missge)	Total Milesge (Miles)	Rain Days (year)	Secupia 6 Water Caratrol	TSP Empty Trocks BANKT	TSP Londed Trucks BAVMT	PM-18 Emissions Pared Ib/VMT	Empty Truck TSP Erriculoms (T/yd)	Loaded Truck TSP Emissions (TAr)	Total Erriculons TRP (TAr)	Emply Truck PM10 Emissions (TA#)	Loaded Truck PM10 Emissions (TA4)	Paid 10
**	0.04	High Limestone Lev Limestone Iron Ore Charasto United the Add	1760 1760 1760 1760						1	12 12 34 34 27	\$1786 \$1786 \$6474 191	1111	00 00 130 60 8	40.1	29 S 121 J	- 10 00 00 00 00 00 00 00 00 00 00 00 00 0	# # # # # # # # # # # # # # # # # # #	13	2 14 2 14 2 15 2 15 2 207	0.76 0.70 0.70 0.70 0.70 0.70 0.70 0.70	9 00 0 00 0 01 0 04 0 00 0 00	9 00 9 00 9 00 9 00 9 00 9 00	0.00 0.00 0.01 0.11 0.00	0.06 6.90 0.00 0.00 0.00	0.00 0.00 0.00 9.01 0.00	9.90 0.00 0.00 0.02 0.02
		Thes (saf) () () () () () () () () () () () () ()					34 34 34 34	1		- И И И Н	3066 70006 10006 43671 302737		11 8 12 1 13 1 13 1 13 2 13 2 10 0	#13 6	29 0 112 4 124 4 0 5 192 6 0 0 0			0.04		0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		- 10	9.06 9.09 9.00 6.00 6.10 9.80		990 900 900 901 991 992 992 993 990 900 900 900 900 900 900 900 900
	······································	Persons (Bulk) Polesh CKD Despore	180 180 1780	6 03 03 6 03		#	17		ATOTAL	# 10 10	12290 4676 6	444 159 26247	90 00 80	99	0.0 0.0 0.0 1440 1		66 60	0.8 0.8 0.8 0.8		0.34 0.32 0.36	0.00 0.00 0.00		0.00	0.00 0.00 0.00	9.00 1 66 0.16	0.00 0.00 0.00
.		Melwani	Paved Re	d Peta	I. I	cysels Vitarioda)	[Aut]	æL.		.	T	T	T	1 .	1	Beryapin & Wistor	TSP	†8P	P\$6-10	Empty Truck 15P	Leaded Truck TSP	Total Emissions	Empty Truck PM10	Loaded Youck PM10	Total Emissions
Segment No.	Segment Langth (mit		States Si dest ghird; Y	i oadey (oatei)	Empty (Tone)		Avg (Tees)	Empty	Loeded	Material Med (Torre)	Material (YAr)	Trips (87/r)	Empty Micaga (Micaga	i oaded belonge perio	Total Milesys (Mily)	Rein Days (year)	Compai S	Firsty Trucks BANKT	Tracks SAAIT	Emissions Pered BANKT	Emissions (7/s)	Eminatura (Tari)	75P (75r)	Emissions (1/m)	Emissione (The)	PM10 (7/e)
**	÷ 43	hafi Line sierre Lew Line sierre Ivan Gra Geleties Alf Tras	1/60 1/60 1/60 1/60				# # #		i			1 44	- 00 00 10 10 174			i			111 111 111 110 101		0.90 0.00 0.00 0.00	1 80		0.00 0.00 0.00	18	0.05 0.05 0.05
		Sika Camed Hulk Descen Skak	116 116 116 116 116				i		1	* * *										0.34 0.34 0.34 0.34 0.36 0.36 0.36 0.36 0.36	98 98 98 98 98	0.0 0.0 0.0				9.06 0.00 0.00 0.01 0.02 0.02 0.02 0.02 0.00 0.00
		OXO Durepes	176			#			ATOTALE	16 16	1730	16630	374.7	0.0	482.8			1.12	1-13	6 34 6 34 6 34	9.00 9.00 9.21	8.1	0 000 0 000 0 000 0 000 0 000	9.00 9.00 9.00 0.07	0.02	
Segment No.	Sagnari Langih (mil)	Material	Pared Bo Surface Si dust	i Sili Londina		1	'	Empty	i outed	Material Nat	Material	Material Trips	Empty Missgs (Miss)	Londed Minopo (Mint)	Total Milesge	Rain Days	Sweepin & Water Control	Trucks	TSP Londed Trucks	PM-10 Emissions Paved	Empty Truck TSP Emissions	Elymania e	TRP	Emply Truck Plet 0 Emissions	Loaded Truck PM10 Emissions	PMITO
ж	6m 6 0.02	Place Limestone	1760 1	(ost/st2	(Tons)	(Tons)	(Tens)			(Yens)	21784 21784	(87/m) 18164	200	9.0	0.0	1000	1 * 1 *	1.69	2.14 2.14	\$-XMT	(7 <i>M</i>)	(TAr)	(TAF)	(740 8/8	(TA/a)	(Ten) 9 990
		Ine Ore Oversem Origina Art Tires	1760 1780 1780 1780 1780 1780			\$3 \$3	- \$4 - 29 - 29	*	¥	- 34 - 34 - 38	22131 122131	134 649	7.0 12.2 6.0	12.7 12.7 0.1	8.7 24.4			0 116 0 146 U 081	261 261 287	0.39 0.39 0.39 0.39	9.06 9.00 9.00 9.00 9.00 9.00	9.0 9.0 9.0 9.0 9.0 9.0 9.0	01 600	0.00	9.85 9.85 9.06 9.06	0 9,89 0 9,90 0 9,00 6 0,90 6 0,80 1 9,01 0 9,00 0 9,00 0 9,00 0 9,00 0 9,00 0 9,00 0 9,00 0 9,00 0 9,00 0 9,00
		Codf Oil Sikks Comest (Bulk)	1760 1766 1766 1766	2 0 0 3 2 0 0 3 2 0 0 3 2 0 0 3	6 1 6 1		35 35 37	i	1	34 36 36	79800 19800 4357 36273	1077 464 1077	295		24 24 200		6 9 0 0	0 1.16 0 0.84 0 1.16 0 1.18	7.51 2.51		9.96 9.85 0.06 0.0 0.00	31 0.0	രി മത	E GAG	000 000 000 000	9.01 9.00 9.00 9.00 9.00
		Puntam (Ikili) Patah G10 Durapar	769 160 760 760			17 17	28 28 12 12	*	ATOTAK	10	1220	18 4	00		0.0			9 09 0 09 0 09 0 09		0 39 0 39	90 90 90			9.00 9.00 9.00 9.00	000 000 000	0 000 0 000 0 000 0 000

Sagrant No.	Segment Length	Material	Parted Nose Surface Sta	Desire STR	Int Empty	ch Weights Landed	Awg Em	et like ty Luaded	Name and and	Material	Meterial	Emoty	Luaded	Yotal	Sen \$	respin T			Empty Track YSP	Londed Truck 15P	Total Emissions	Empty Truck PM10	Loaded Truck PM10	Total Erris slotte
-	6n6 0.02		dust %	(outyd2)	(Pans)	(Iona)	Tone)		Pést (Tons)	1760	Trips (MAx)	Empty Minespe (Mines)	(Alley)	Minage (Minage (Minage)	Days (control In	phy Loss cha Frac AMT BAA	ta Pared	Establishme (TAN)	Emitsions (T/p)	TSP (The)	Emissions (TAY)	Errola salestra (T/yr)	99410 (7/kr)
*	4.42	Law Limestone Iron Ore	1750 12 1760 13 1760 13	934 934		12	* *			捌	18155 19155	9.0 9.0 3.1	1 33		#0 #0	- 60 - 60		14 2.36 14 2.36 61 0.36	200	0.00 0.00	0.00 0.03 0.01	900 900	0.00 0.00	9.90 9.90 9.90
		Osotueth Griedina Aid Teas	1760 12		#		1		#		154 649 304					141	1 2		9.00		0.03 0.00 0.00	0.00 0.00	0.06 0.06	0.01
		Samuel (Sub)			\blacksquare					7000		=					1 1 1			100	100 100 100 100 100 100			
		Duras em (Pula) Petask CKD	1700 1 1700 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							12707	1074) 2 444 484	### 19	0.5	246.4 0.0 0.0 0.0 0.0 0.0		- 50			\$ 90 \$ 20 \$ 20	0.00 0.00 0.00 0.00	0.18 0.08 0.09 0.09	9 00 0 00 0 00 0 00 0 00 0 00 0 00 0 00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00
LI	***************************************	Desgrat		0 34			-111	8UBTO1	AL		10220		00 00 00 00 00 00	- 00 00 3003	- 10			13 9 3 13 8 3 22 0.84		9.00 9.00 9.10	1 100 1 100 1 27	0.04 0.06	0.00 8.00 0.62	
Secret	Segment		Pared Rose	Pas	Tay	Melata.	, į tr	eck Trips	1	1	T				[36	wagan T	₽ Ya	PM-10	Enquiy	Loaded	Total	Empty	Londed Yearth Middle	Total
Segment No.	i.ongth (net)		Surface Sile their (bless) %	prince 2 Chrise)	Empty (Tens)		Ave Erre Tokaj	ty Londod	Material No. (Tota)	Mutarini (TAC)	inferiorist Trips (86s)	Empty Micago Micago	Loaded Mange (May)	Total Mileage palayo		Water En Control In	ON LOAD	nd Embraines ks Pered df bookf	Empty Truck YaP Emissione (TAr)	Truck YSP Emissions (TAx)	Eminulona TSP (T/Ar)	Empty Track Past 0 Empty Empty Empty The	Ymack Middle Emissione (Yiyr)	Rayde stons PAR16 (The)
¥	001	than Licestone Les Linsestone Iron Ore	1780 12 1780 12	83	- X9 - X9	-11	*		12	217 84	18156	900	9 a	9.0	BG BG		2 100 2	14 9 34 14 9.34	6.00	0.00 9.00		0.00	0.00	0.00
		One swer Orientalis Add		934				İ		25	134 919		80 18 91 91	0.5 3.9 10.3 0.1		60 60			1 230	100 100 100	0.00 0.00 0.00 0.00 0.02 0.04 0.04	0.00 0.00 0.00	5.00 0.90 8.90	0.00 0.00 0.00
		Casell Cali 24ca	750 11 176 12 176 12 176 16 176 16 176 16 176 17 176 17 176 17 176 17 176 17	13 13 13 13 13 13 13 13 13 13 13 13 13 1	#	#		i		雅			- 11						\$ 900 \$ 900 \$ 900 \$ 900 \$ 900 \$ 900 \$ 900 \$ 900	905 104 101	9.00 0.04	0.00 9.00 9.00 9.00 0.00 0.00 0.00 0.00	288 288 288 288 288 288 288 288 288 288	
		Centeri (fluit) Duracem (fluit) Fotasi (10)	1760 12 1760 12 1766 12	0 36 0 34		4				36273	4	143 88	5.0 0.0	164.0 9.5 9.5 9.5 9.9 9.8					9.00 9.00	1,04 9 0 1,04 0,04 0,04 1,00 0,00 0,00 0,00 0,0	0 06 0 00 0 00	0.03 0.03	6.90 6.90 0.06	2,00 2,00 2,00 2,00 2,00 2,00 2,00 2,00
L		Dermar Dermar	1766 13	0 36 0 38	-	-#]	12	x 3U8101	18		444 518 0	180.5	9.0 9.0 9.0 42.0	233 1	ič	<u>se</u>	81 1 81 1	22 0.3		\$ 00 \$ 00	0.00 0.00 0.00	0.90 9.90 9.99 0.00	0.00 0.00	
												****					**** 4	44 9.4 1	9.34	2.00			9-41	
I. T	_		Press Sand	Debi		d Visite	1 %	eck Teins		Ţ			1 1							T >	T 4-a-1		· · · · · · · · · · · · · · · · · · ·	
Segment No.	Segment Length (mb)	Maria	Pared Name Surbon Mit dust (butnig V	Nata SE Londing (sayviZ)	Empty (Tome)		Avry Emp	pri Tripei Tourded	Next	Material	Metariat Vrips (Shr)	Empty Mange	i.oeded Minege	Total	Cleys (nyapin Ti Winter En Control Tr	epty Lees	ed Emissions as Pawed	Empty Truck TSP Emissions	Exacted Truck 18P Emissions	Total Emissions TSP	Empty Fruck Philip Emissions	Loaded Truck PM10 Emissions	Yotel Endealers PACIO
Segment No.	Segment Length (mb	Manufacturial	dust 1	Londing (suppet2)	Empty (Tone)		1	Trips by Loaded	Mutariui Neat (Totra)	COM	Tripes (B/yr)	Empty siltenge GW/ri)	9.0	pallyr) DS	ftain 6 Geys (Great)	Winter En Control Tri 14 Sp.A	oty Lead	he Paved dT BANKT	Emletione (T/w)	Truck YSP Emissions (744)	Emiratuna TSP (TAr)	Emissions (T/p)	Truck Platto Emissions (TAs)	Total Endactors PARIO (Total
		Metaciel Itom Linerthone Low Sections Low Car	dust 1	Londing (suppet2)	(Tono)	(Tone) (1	The land	Next	1	10 10 10 10 10 10 10 10 10 10 10 10 10 1	Empty stronge 6#/d	90 90 91	patry)	Cleys (Whiter English Shapes	PR Less	### ##################################	(1/hr)	Truck YSP Emissions (784)	Emiraiona 759	Emissions (T/p)	Truck Platto Emissions (TAs)	Total Entirement PME10 (1764) 0.00 0.00
		Law Little steere Law Cite Characam	dust 1	Londing (suppet2)	Tanna)	(Tone) (1	To-box	Next	217854 217864 4841 2771 1886	11 15 12 15 12 15 14 14 14 14 14 14 14 14 14 14 14 14 14		99.		Cleys (Control Tr	AFT BA	### ##################################	Emissions (17s) 100	Track 1847 Ensistens (1749) 9,990 9,911 9,912 9,913 9,914 9,914 9,915 9,	75P (7/0) 0.00 0.00 0.00 0.00 0.00 0.00 0.00	Emissions (T/p)	Truck PMR10 Emissions (T/A) 0.00 0.00 0.00	Total ###################################
	943	Lane Linea Mario Carlo C	dust 1	Londing (suppet2)		(Tone) (1		Next		1445 (849)	- 25	90 90 11 21	98940 98840 98 98	Cleys (Control Tr. S. SA		Familia Communication Communic	Emissions (17s) 100	Track 1847 Ensistens (1749) 9,990 9,911 9,912 9,913 9,914 9,914 9,915 9,	15P (1/w) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	(7/p)	1000 PMR10 Ensistent PMR10 PMR	Total Explications PME10 (75/0)
	943	Les Problèms Les P	double to the state of the stat	Londing (mptyd2)	Toma S	(Tone) (1		Nea (form)		19156 		11 11 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Cleys (White En Countries In Market In Mark	Art barrens of the control of the co	Section Sect	Ernkston (Thr)	Truck 18P Envisators (19r) 2.90 2.91 2.91 2.91 2.92 2.92 2.92 2.92 2.92	15P (TAr) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	(7/p)	Teach Pairto Emis stone (1/20) 1,20 1,20 1,20 1,20 1,20 1,20 1,20 1,20	Total Enterine PM610 (T/60) 0.00 0.00 0.00 0.00 0.00 0.00 0.00
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ASH GROVE CEMENT COMPANY, INKOM PLANT; PROPOSED EMISSIONS FROM STORAGE PILES

Area	Pile	Pile	Pile	Pile	Material	Material	AVG	Rain	TSP	TSP	TSP	TSP	PM ₁₆	PM ₁₀	PM ₁₀	PM ₁₀	TSP	PM ₁₀
	Num	Material	Storage	Area	Moisture	Throughput	Wind Speed	Days	Transfer Factor	Wind Factor	Transfer Emissions	Wind Emissions	Transfer Factor	Wind Factor	Transfer Entissions	Wind Emissions	Total Emissions	Total Emissions
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Quarry	1	Larræstone (High)	50000	2.00	6	217854	10.2	90	0.00116	3.5	0.1265	0.96	0.00041	1.7	8.04	0.4675	1.09	0.51
Quarry	2	Limestone (Low)	50000	2.00	8	217854	10.2	90	0.00116	3.5	0.1265	0.96	0.00041	1.7	0.04	0.4675	1.09	
Quarry	3	Gypsum	3370	0.50	В	22737	102	90	0.00116	3.5	0.0132	0.24	0.00041	1.7	0.00	0.1169	0.25	0.12
Cluarry .	4	Iron Ore	989	0.40	2	4841	10.2	90	0.00608	3.5	0.0198	0.19	0.00283	17	0.01	0.0935	0.21	
Plant	5	Coal	8965	1.00	5	70000	10.2	90	0.00224	3.5	0.0785	0.48	0.00078	1.7	0.03	0.2338	0.56	
Quarry	6	Silica	26095	1.00	10	43571	10.2	90	0.00085	3.5	0.0185	0.48	0.00030	1.7	0.01	0.2338	0.50	
Quarry	7	CKD	10000	1.00	1	4575	10.2	90	0.02134	3.5	0.0488	0.48	0.00747	1.7	0.02	0.2338	0.53	0.25
				*******			•	<u></u>		·····						TOTAL	4.23	2,00

REFERENCES:

AP-42 SECTION 11.2.3 (PILE TRANSFERS)
AP-42 SECTION 8.19.1 (PILE WIND EROSION)
ASSUMED NO WIND EROSION ON RAIN DAYS

ASH GROVE CEMENT COMPANY, WKOM PLANT; PROPOSED EMISSIONS FROM INTERNAL TRANSFERS

Segment No.	Segment i.engen (ml)	CAT No.	Materiei	\$#1 %	Number of Valueous	TR Emply (Tone)	UCK WEK Loaded (Tons)	Mij Avg (Tone)	Material Not (Tons)	Avg Speed (mph)	Missieriei (T/yr)	Makerini Trips (#/yr)	Trip Minage (Milyr)	Bucket Weight (T/Bucket)	Bucket Size (yd3)	Bulk Density (8/f13)	Buckel Factor	Raán Deys (yasar)	Unpaved Water Control %	TSP Emissions Unpaved (BVMT)	PM-10 Emissions Unpaved (DAMT)	Total Emissions TSP (TAr)	Total Ensissions PM-10 (TAr)
103	0.03	86081	Choesen	16	4	30	42	36	12	a	22738.84	7267	291	3 13	,	103	0.78	90	. 20	4.35	1.67	0.83	0.23
104	0.02		tran Ore	15	4	30	46	38	16	1	4841.2	1678	78	2.86	3	- 50	0.75	90	20	4.47	1.61	0.17	0.06
105	0.02	36081	Sisca	7.1		30	42	38	12	i ŝ	43570.8	12564	603	3.47	5	64.5	0.75	90	20	2.08	0.74	0.52	0.19
107	0.02	D10/D91	CHAFTY ROCK	7.1	4	30	42	38	12	1 8	40000	6271	251	6.38	5	126	0.76	90	20	2.0€	0.74	0.26	0.09
108			Miscellereous	18	4	10	14	12	4		8000	1254	50	6.36	8	126	0.75	90	20	2.51	0.90	0.08	0.02
109	0.02		Miscelaneous	15	4	10	14	12	4	1 8	500C	784	31	6.38	3	126	0.75	90	20	2.51	0.90	0.04	0.91
110	0.02		Miscellaneous	15	1	2	2.5	2	. 1	ā	1900	157	6	6.38	3	126	0.76	90	20	1.09	0,39	0.00	0.00

1207 150,8619 TOTAL 1.68 TOTAL (LB/HR) 41.7868187

Page 1 of 1

APPENDIX B

IPANY

ASH GROVE CEMENT COMPANY

WESTERN REGION 230 CEMENT ROAD INKOM, IDAHO 83245-1543 PHONE 208 / 775-3351 FAX 208 / 775-3509

RECEIVED

OCT 0 6 1997

October 3, 1997

BY FEDERAL EXPRESS

DIV. OF ENVIRONMENTAL QUALITY AIR & HAZARDOUS WASTE

Orville D. Green
Assistant Administrator
Air & Hazardous Waste
Idaho Department of Health and Welfare
Division of Environmental Quality
1410 North Hilton
Boise, ID 83706-1255

Re: Modification of Tier II Permit 005-00004

Dear Mr. Green:

Thank you for your letter of September 10, 1997 in which you requested further information about emission factors used in the emissions estimate included in Ash Grove's August 15 application.

The emissions estimate is based upon one developed by Environmental Quality Management, Inc. (EQM) under contract with Idaho Department of Environmental Quality (IDEQ) during 1993-1995. Ash Grove updated this emissions estimate to reflect information that has become available since EQM developed the original estimate.

- 1) The PM/PM₁₀ ratio was changed from a range of values used by EQM to 48 percent for all areas where crushed stone processing factors were deemed appropriate. EQM referenced AP-42 for these factors and actually used them to derive the PM₁₀ factor from the PM factor which was an absolute value taken from AP-42 tables. AP-42 has been updated since EQM prepared the emissions estimate. Table 11.19.2.2 of AP-42 published January 1995 contains mainly PM₁₀ factors. PM factors can be derived from the PM₁₀ factors in accordance with footnote "c" to the table. This footnote indicates that PM factors can be derived from the PM₁₀ factors by multiplying by 2.1. In other words, the PM/PM₁₀ ratio is 2.1 from which it can be deduced that the PM₁₀ /PM ratio is 1 divided by 2.1 = 48 percent. Ash Grove is in the habit of using this ratio because this has been accepted by other state agencies. To derive the PM factor from the PM₁₀ factor Ash Grove chose to divide the PM₁₀ factor by 48 percent rather than multiply it by 2.1 because the EQM spreadsheet invited this approach.
- 2) Ash Grove changed the coal handling factors from those used by EQM because EQM's emission factor reference was considered inferior to AP-42. Ash Grove is in the habit of using crushed stone processing factors for coal because this has been

accepted by other state agencies. It could be argued that factors for Western Surface Coal Mining in chapter 11.9 of AP-42 should be used. This chapter, however, does not cover conveying and handling such as done in a cement plant. This is why the factors from this chapter were not used.

3) Ash Grove has not intended to use emission factors normally associated with stone processing to determine emission from process areas that handle clinker. Conversations with EQM convinced Ash Grove that EQM's factors for clinker processing areas were more representative than any from AP-42. EQM's work with hi-vol samplers from which the clinker processing factors were derived is explained in detail in the attached letter from EQM. EQM's factors are higher than the corresponding crushed stone processing factors from AP-42.

In addition to the responses above to the request for information contained in your letter, Ash Grove would like to take this opportunity to also respond to issues raised by Mr. Almer Casille during a phone conversation with Barbara Beagles and Hans Steuch of Ash Grove on Tuesday, September 30. Mr. Casille mentioned that in order for the application to be approved it cannot show an increase in emissions from unpaved roads and transfers above the values upon which the 12/04/95 Tier II permit is based.

Ash Grove has reviewed the emissions estimate (MS-excel workbook "prop-ei-rev3") for unpaved roads and transfers and has the following observations:

- The speeds used in the estimate for all vehicles on paved and unpaved roads (entered into the sheet "Road Inputs") were 15 miles per hour. The actual posted speed limit in the plant is 8 miles per. The values in the estimate have been updated to reflect the posted speed limits in the plant.
- Ash Grove takes two actions to control particulate emission from unpaved areas subjected to vehicle traffic. Magnesium chloride is applied at least once year and water is applied from a watering truck when conditions warrant. Appendix B to AP-42, in Table B.2-3, contains separate line items, AIRS Code 061 and 062, for each of these activities. The control factor ranges from 40 to 90 percent depending upon the particle size of the road dust. Ash Grove interprets the table to allow some accumulation of the effects of the two methods of dust control employed by the company and hence has increased the control percentage from 70 to 75 percent.
- Silica is now brought into the plant by the same company that brings in iron ore and gypsum. All three materials are brought to the plant in the same kind of vehicle. The vehicle information in sheet "Road Inputs" has been updated to reflect this fact.
- EQM was consulted about the meaning of "transfers". This covers Ash Grove's short
 hauls from the areas near storage piles where suppliers dump imported materials to
 the piles.
 - The distance for this haul has been conservatively set in past estimates to 0.05

- miles, where in reality it is no more than 35 yards. As a consequence Ash Grove has updated the haul distance in the "Transfer" sheet to 0.02 miles.
- Silica and quarry rock are abrasion resistant and the size received is pebble to inch size. The silica and quarry rock transfer areas are covered in this coarse material. Therefore the silt content for these areas has been conservatively updated to the value used for unpaved roads. This value is 7.1 percent and has not changed since EQM's original estimate.
- On dry days when transfer activities could be dusty the transfer areas are watered with the watering truck. To reflect this practice a 20 % control for watering has been applied to the estimate.
- The revised workbook, named prop-ei-rev4, shows that updating the emissions estimate as described above results in emissions from unpaved roads and transfers being no higher than the values upon which the 12/04/95 Tier II permit is based. The workbook is attached in hardcopy and floppy disk format.

Ash Grove hopes the information provided in this letter is satisfactory. The changes made to the plant site emission from the choices discussed above are small, in the order of a few percent of total plant site emissions.

If you have any questions please do not hesitate to call me or Barbara Beagles at (208) 775-3351 or Hans E. Steuch at (503) 293-2333.

All information in this notification is true, accurate and complete based on information and belief formed after reasonable inquiry, in accordance with IDAPA 16.01.01.123 (Rules of the control of Air Pollution in Idaho).

Sincerely,

Don Killebrew

Plant Manager

Attachment: EQM letter

Emissions Estimate (hardcopy and floppy disk)

Copy: Barbara Beagles

Hans E. Steuch

970929b.doc

APPENDIX C

Table 11.19.2-2 (cont.).

- d Emission factors for total particulate are not presented pending a re-evaluation of the EPA Method 201a test data and/or results of emission testing. This re-evaluation is expected to be completed by July 1995.
- e References 9, 11, 15-16.
- Reference 1.
- 8 No data available, but emission factors for PM-10 emission factors for tertiary crushing can be used as an upper limit for primary or secondary crushing.
- h References 10-11, 15-16.
 - j Reference 12.
 - k References 13-14.
 - m Reference 3.
 - n Reference 4.

Emission factor estimates for stone quarry blasting operations are not presented here because of the sparsity and unreliability of available test data. While a procedure for estimating blasting emissions is presented in Section 11.9, Western Surface Coal Mining, that procedure should not be applied to stone quarries because of dissimilarities in blasting techniques, material blasted, and size of blast areas. Milling of fines is not included in this section as this operation is normally associated with nonconstruction aggregate end uses and will be covered elsewhere when information is adequate. Emission factors for fugitive dust sources, including paved and unpaved roads, materials handling and transfer, and wind erosion of storage piles, can be determined using the predictive emission factor equations presented in AP-42 Section 13.2.

References For Section 11.19.2

- Air Pollution Control Techniques for Nonmetallic Minerals Industry, EPA-450/3-82-014,
 U. S. Environmental Protection Agency, Research Triangle Park, NC, August 1982.
- 2. Written communication from J. Richards, Air Control Techniques, P.C., to B. Shrager, MRI. March 18, 1994.
- 3. P. K. Chalekode et al., Emissions from the Crushed Granite Industry: State of the Art, EPA-600/2-78-021, U. S. Environmental Protection Agency, Washington, DC, February 1978.
- 4. T. R. Blackwood et al., Source Assessment: Crushed Stone, EPA-600/2-78-004L, U. S. Environmental Protection Agency, Washington, DC, May 1978.
- F. Record and W. T. Harnett, Particulate Emission Factors for the Construction Aggregate Industry, Draft Report, GCA-TR-CH-83-02, EPA Contract No. 68-02-3510, GCA Corporation, Chapel Hill, NC, February 1983.
- 6. Review Emission Data Base and Develop Emission Factors for the Construction Aggregate Industry, Engineering-Science, Inc., Arcadia, CA, September 1984.
- 7. C. Cowherd, Ir. et al., Development of Emission Factors for Fugitive Dust Sources, EPA-450/3-74-037, U. S. Environmental Protection Agency, Research Triangle Park, NC, June 1974.

December 8, 1997

MEMORANDUM

TO:

Dave Sande, Accountant Supervisor

Support Services

FROM:

Susan J. Richards, Chief

Air Quality Permitting Bureau

Air & Hazardous Waste

THROUGH: Almer B. Casile, Air Quality Engineer

Air Quality Permitting Bureau **Operating Permits Section**

SUBJECT: Permit Application Fees for Tier II Operating Permit

The following facility has been reviewed for compliance with IDAPA 16.01.01.016 Rules for the Control of Air Pollution in Idaho.

Ash Grove Cement Company

Ash Grove Cement Company applied for a Tier II Operating Permit for their facility. DEQ has released the facility's Tier II Operating Permit. Because this facility has been found to meet this criteria and in accordance with IDAPA 16.01.01.470, the facility is subject to a permit application fee of:

Five Hundred Dollars and No Cents (\$500.00)

The contact and mailing address for the above facility is:

PERSON CONTACT:

Don Killebrew

COMPANY ADDRESS:

Ash Grove Cement Company

230 Cement Road

Inkom, Idaho 83245-1543

DS\SJR\ABC::irj-c\..agc-f.FEE

CC:

M. Lowe, Pocatello Regional Office

Source File

COF